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ABSTRACT

An evaluation of the Research and Development Centers and the Regional Educational Laboratories of the Office of Educational Research and Improvement (OERI) was conducted by an outside analyst brought in in September 1991 by then Assistant Secretary Diane Ravitch. The Research and Development Centers have been one of the primary sources of federally supported education research for nearly 30 years. This analysis of the nature and quality of the research they produce indicates that the overall quality of the research is mixed. However, excellent educational research has been, and can be, produced by these centers. Steps to ensure this are summarized. At present, development seems to be emphasized less among center activities. A similar look at the types and quality of research and development at the regional educational laboratories analyzed activities since 1985. This undertaking is more complicated than the previous evaluation because the laboratories have not always been as explicitly and directly focused on research and development as the centers. Over time, their missions and operation have changed enough so that OERI would do well to reconsider the role of these laboratories and to look into the provision of research-based technical assistance that may be available elsewhere. Suggestions for improving the laboratory system are given. Appendixes include the curriculum vitae of the author, a list of centers and laboratories, and a reply to comments on the report by the chair of the Organization of Research Centers. Six figures illustrate the discussion. (SLD)

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ANALYSIS OF THE QUALITY OF RESEARCH AND DEVELOPMENT AT THE OERI RESEARCH AND DEVELOPMENT CENTERS AND AT THE OERI REGIONAL EDUCATIONAL LABORATORIES

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Office of Educational Research and Improvement (OERI)
U.S. Department of Education

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INTRODUCTION

Despite the periodic concerns about the educational research funded by the federal government, it is almost impossible to find any indepth assessments of the quality of that work. In general, government employees usually focus on identifying appropriate research topics, ensuring a fair and impartial review of the proposals, and funding the best proposals. In addition, efforts are made to monitor the progress of the grants and contractors--which may or may not include inspection of the work underway. The procurement process is closely supervised by both program and budget specialists within the U.S. Department of Education. But much less attention paid to assessing systematically the quality of the commissioned work once the research project has been completed. Perhaps an implicit assumption often is that if you fund a well-designed research project undertaken by a competent scholar, there is less need to scrutinize the final product. As a result, there have been little, if any, detailed investigations of the quality of educational research submitted by federal grantees and contractors.

The relative lack of systematic assessment of the quality of research finally produced is not confined to the U.S. Department of Education--it tends to reoccur throughout much of the federal government. For example, the Office of Adolescent Pregnancy Programs in the Department of Health and Human Services often did not make much serious use of the final research or evaluation reports submitted by grantees or contractors--let alone examine carefully and critically the quality of those final products on a regular basis.[1] Given the widespread, though often erroneous, perception among many policy makers and the general public that the quality of most educational research is particularly weak, it is unfortunate that so little has been done to examine and address this problem during the past 20-30 years.[2]

Much of the rather small amount of research done by the U.S. Department of Education is funded by the Office of Educational Research and Improvement (OERI)--the successor to the National Institute of Education (NIE) which was created two decades ago. Despite sporadic calls for examining the quality of work funded by NIE or OERI, the agency never commissioned a detailed examination of the research and development it sponsored. Partly this reflected NIE/OERI's lack of concern about the quality of research and development and partly it reflected the extremely short tenure of most of the politically appointed leaders of that agency. Even outside analysts, such as the recent National Academy of Science panel to study OERI, have not explored the quality of the work funded by that federal agency.[3]

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[1] For an analysis of the research at the Office of Adolescent Pregnancy Programs (OAPP) in the late-1970s and early 1980s, see Maris A. Vinovskis, An"Epidemic" of Adolescent Pregnancy? Some Historical and Policy Perspectives (New York: Oxford University Press, 1988).

[2] On the perception of policy makers and the public on the quality of educational research, see Carl F. Kaestle, "Everyone's Been to Fourth Grade: An Oral History of Federal R&D in Education." Final Report to the Committee on the Federal Role in Education Research, National Academy of Sciences (September 1991).

[3] Richard C. Atkinson and Gregg B. Jackson, eds., Research and Education Reform: Roles for the Office of Educational Research and Improvement (Washington, DC: National Academy Press, 1992).

Diane Ravitch, an accomplished scholar and an ardent school reformer, was appointed the Assistant Secretary for OERI in mid-1991. While much of her personal focus in that office was on the development of world-class curriculum standards and frameworks, she also was deeply concerned about the quality of educational research in general--perhaps in part reflecting her recent previous experiences in co-directing the National Academy of Education's study, Research and the Renewal of Education.[4]

Diane Ravitch contacted me in September 1991 and inquired whether I might be available and willing to come to OERI on a temporary excepted service appointment to examine the nature and quality of work supported by that agency and to make suggestions for how to improve it. She was familiar with some of my scholarly work since we are both historians of education and had met at several academic conferences; but we had never established a close working relationship prior to my employment at OERI. My training in the social sciences as well as my quantitative and qualitative work in American history provided me with a broad background to examine and evaluate a variety of kinds of research. Moreover, she was anxious to bring in someone outside the mainstream of the field of education who might not hesitate to criticize the commissioned research if necessary. What she did not realize at the time was my previous experiences in working on the staff of the U.S. House Select Committee on Population in 1978 and serving as a frequent, long-term consultant to the Office of Adolescent Pregnancy Programs (OAPP) and to the Office of Family Planning (OFP) in the Department of Health and Human Services (DHHS) from 1981-1985. Working for the U.S. Congress and DHHS provided me with invaluable experiences for understanding the tasks at OERI.[5]

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[4] National Academy of Education, Research and the Renewal of Education (Stanford: National Academy of Education, 1991).

Originally I was scheduled to join OERI full-time in January 1992, but delays in completing the paperwork meant that I served as a part-time consultant for the first six months. My official title was Research Advisor to the Office of the Assistant Secretary (OAS) which permitted me to range broadly across programs within OERI and pursue different research-related assignments. The primary and initial task assigned to me was to analyze the nature and quality of research and development funded by OERI and to make specific recommendations for improving them. Diane Ravitch did not tell me what particular aspects of OERI research and development to study or how to proceed.

Prior to joining OERI, I had only a vague and incomplete understanding of the operations of that office or of the system of centers and labs that it funded. In order to familiarize myself with OERI, I initially reviewed the extensive briefing materials assembled for the panel studying OERI for the National Academy of Science and began discussions with the staff at OERI. Gradually, I developed a preliminary strategy for investigating the research and development funded by the office.

Since a major portion of the research and development funds of

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[5] I have included a copy of my resume as appendix A.

OERI were expended on the centers and laboratories, this was a logical place to begin. Because of my familiarity with the academic community, I started with the centers and then turned my attention to the laboratories. Afterwards, I tentatively had expected to analyze the National Center for Educational Statistics (NCES) and then the field-initiated research. Given that the study of the centers and laboratories took longer than initially anticipated (in part due to other assignments I received) and the change in administrations, only the analysis of the quality of research and development at the centers and laboratories has been completed before returning to the University of Michigan in August 1993.[6] Therefore, rather than a series of individual studies of different sources of research and development at OERI as originally envisioned, this report only contains the analysis of the centers and laboratories. Hopefully, OERI will continue and complete this series of reviews of the quality of research funded by other elements in the total OERI program.

While Diane Ravitch wanted an examination of the nature and quality of research and development, she also expected specific recommendations on how to improve the overall system as well. As the research advisor to OAS, I quickly became involved in working with the Office of Research (OR) and the Programs for the

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[6] I was appointed for a three-year term at OERI and the change in administrations did not affect my employment in the agency. However, even prior to the November 1992 presidential election, I was called by my colleagues at the University of Michigan to chair our Department of History. Unfortunately, I really could not refuse that request and therefore decided to return to the University of Michigan for the fall term in 1993.

Improvement of Practice (PIP) to enhance the quality of research and development at the centers and laboratories. Since a preliminary draft of the center report was completed in July 1992 but the one on the laboratories was only finished in January 1993, there was more of an opportunity to influence the changes in the operation of OR than in PIP. In both cases, however, it was expected that I would work closely with the staffs of those programs to implement any changes or recommendations that were seen as desirable by the leadership of those programs as well as by the Assistant Secretary.

While most of the reports focus on the nature and quality of research and development at the centers and laboratories, there are also some broader observations and recommendations on the role of the centers and laboratories as well. These broader findings flow not only from my specific research on the centers and laboratories, but from my larger experiences with research-related activities within OERI as well as from the writings of other analysts about NIE and OERI. Particularly useful were my experiences as the co-ordinator of the OERI 3-5 year planning process during 1992 as it gave me ample opportunity to work closely with the wide array of research and development activities within OERI--not just those associated with the centers and laboratories. Thus, while most of the analyses and recommendations in the two reports on center and laboratories focus on the nature and quality of the research and development, there are also some broader suggestions of the role of these institutions within the overall OERI context.

Finally, I want to acknowledge the extensive assistance and encouragement I have received from the staffs at OERI, the centers, and the laboratories. While sometimes we have differed over interpretations of particular issues or over the recommendations made in this report, this has never interfered with the willingness of those staffs to provide information and to share their ideas. The transition from the Bush to the Clinton Administration did not impede the writing of this report at all thanks to the continued open and friendly co-operation first from Emerson Elliott, the Acting Assistant Secretary, and then from Sharon Robinson, the current Assistant Secretary of OERI. While the Assistant Secretaries and other staff members at OERI made extensive constructive comments and criticisms about the draft reports, none of them ever tried to insist upon a particular interpretation or attempted to censor any of my findings or recommendations.

Chapter 1

ANALYSIS OF THE QUALITY OF WORK PRODUCED BY THE OERI RESEARCH AND DEVELOPMENT CENTERS

The research and development centers of the Office of Educational Research and Development (OERI) have been one of the primary sources of federally-supported education research from their inception nearly three decades ago. From 1964 through 1991, approximately $620 million (in constant 1982-84 dollars) have been expended on these centers.[1] Despite the large amount of funds that have been spent, almost no effort has been made to analyze the research produced--though individuals sometimes have commented on its quality and usefulness based upon their general perceptions of these institutions.

This study of the research and development centers of the Office of Educational Research and Development (OERI) focuses on the nature and quality of the research produced by these institutions. As part of that effort, some analysis of their budgets and staffing will be made, but little specific attention will be paid to an evaluation of their other important activities such as dissemination or the impact of their research.

This analysis begins with an examination of the major trends and changes in policy toward the research and development centers since the early 1960s. Then five current and two former centers are examined in considerable detail by analyzing the amount and types of research they have conducted, the quality of their research products, and the ways in which the staff of OERI interacted with these centers. While the necessity of focusing attention only on a small number of centers may somewhat limit the extent of the generalizations that can be drawn from this study, hopefully the issues raised and the recommendations made as the result of this investigation will contribute in a modest way toward improving the overall quality of the research produced by the centers.

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[1] The information on center funding is based upon data from an OERI draft document, "Center Funding History, 1964-1992" (October 1, 1991). Since that document had some data missing for the early years, I have tried to update it with information from other sources such as the annual congressional appropriation hearings. While the general funding levels and trends are probably correct, there may be some minor inaccuracies in the figures for some of the R&D centers. The cost of living information is from U.S. Department of Commerce index of consumer prices.

I. Historical Development of Centers

Although the federal government established the U.S. Office of Education (OE) in 1867, it did not become heavily involved in research until the 1950s. The Cooperative Research Act of 1954 (Public Law 83-531) authorized research and development (R&D) activities in universities and state education agencies. Yet the total amount of money for federal education research was limited and most of the initial grants were quite small. In 1956 approximately $1 million dollars was appropriated for educational research--but two-thirds of it was earmarked for research on the education of the mentally retarded.[2]

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[2] For a useful summary and discussion of the early federal efforts in research, see Richard A. Dershimer, The Federal Government and Educational R&D (Lexington, MA: Lexington Books,

Moreover, there was growing concern that many of the individual education research projects were uncoordinated and unrelated so that they would not lead to any significant cumulative advances in the field. In one of the earliest, comprehensive analyses* of the federal educational laboratories and centers, Francis Chase characterized these earlier efforts:

> Our older educational institutions were not well adapted to provide continuous development based on research. Because of this, we have had a history of erratic innovation in education. All too often, heralded innovations have meant the introduction of partially worked out ideas and systems without adequate provisions either for continuing refinement or for modification of other elements with which the new components must interact. The result frequently has been failure to achieve the expected benefits and consequent discard of theories and technologies before full exploration of their usefulness. In other words, we are suffering in education not so much from lack of innovation as from arrested development. The educational landscape is littered with bright ideas which once evoked high hope and with technologies and systems imperfectly adapted to

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1976).

educational use.[3]

The response to this fragmentation of federal education research was the creation of the first R&D centers in 1964 under the authorization of the Cooperative Research Act and administered by the U.S. Office of Education. The passage of Title IV of the Elementary and Secondary Education Act (ESEA) of 1965 provided the authorization for more R&D centers as well as the creation of new, regional educational laboratories.[4] By FY67 a total of 10 R&D centers, each affiliated with a major university, had been established.[5]

Each R&D center was expected to have a programmatic focus. Ward Mason, Director of the R&D Center Program from 1964 to 1972, listed five guidelines that have remained characteristic of the program throughout its history:

> Concentration of effort on a significant education problem.

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[3] Francis S. Chase, "The National Program of Educational Laboratories: An Independent Appraisal of Twenty Educational Laboratories and Nine University Research and Development Centers Conducted Under Contract No. OEC-3-7-001536-1536" (Washington, DC: U.S. Department of Health, Education, and Welfare, 1968), p. 8.

[4] For an analysis of the passage of Elementary and Secondary Education Act (ESEA) of 1965, see Stephen K. Bailey and Edith K. Mosher, ESEA: The Office of Education Administers a Law (Syracuse, NY: Syracuse University Press, 1968).

[5] U.S. Congress, House, Committee on Education and Labor. Study of the United States Office of Education. 90th Congress, 1st Session (House Document No. 193: Washington, DC: U.S. Government Printing Office, 1967), p. 224.

> Interrelated projects and activities planned to achieve defined objectives.
>
> Responsibility for program management delegated to center administrators with broad responsibility to the Office of Education.
>
> Interdisciplinary teams recruited from throughout the university as required by the problems addressed.
>
> Vertical integration of activities across the full range of research, development, and dissemination functions.[6]

The early centers were intended to be large, national institutions which focused on some education problem area (in the initial competitions for R&D Centers, the Office of Education did not specify what education problems or issues had to be addressed, but left it up to the applicants to decide what might be most appropriate). Among the R&D centers created between 1964 and 1966, the average annual funding for the first three years was approximately $2.5 million (in constant 1982-84 dollars)--considerably larger than the current $780,000 (in constant 1982-84 dollars) average annual funding for centers created between 1989 and 1991.[7] Similarly, there has been a substantial reduction in the average cost per center (in constant 1982-84 dollars) over time (see figure 1).

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[6] Ward S. Mason, "Two Decades of Experience with Educational R & D Centers" (Washington, DC: National Institute of Education, 1983).

[7] For details of the data on center funding, see footnote one.

Insert figure 1

If there was general agreement that the early R&D centers should be large national institutions organized around some education issue or problem, there was less consensus about the exact nature of the work that was to be performed.[8] Title IV of the Elementary School and Secondary Education Act of 1965 did not specify exactly what activities R&D centers were expected to undertake. Nor did the influential John Gardner Task Force on Education in 1964 provide much concrete guidance for the centers--though it did provide much more detail on their expectations for the new education laboratories.[9] However, the directives from the Office of Education as well as several assessments of the centers and laboratories, do provide some clues to the intentions of the founders as well as the early Office of Education administrators. Jerry Walker, who consulted the relevant documents as well as interviewed many of the participants, noted that:

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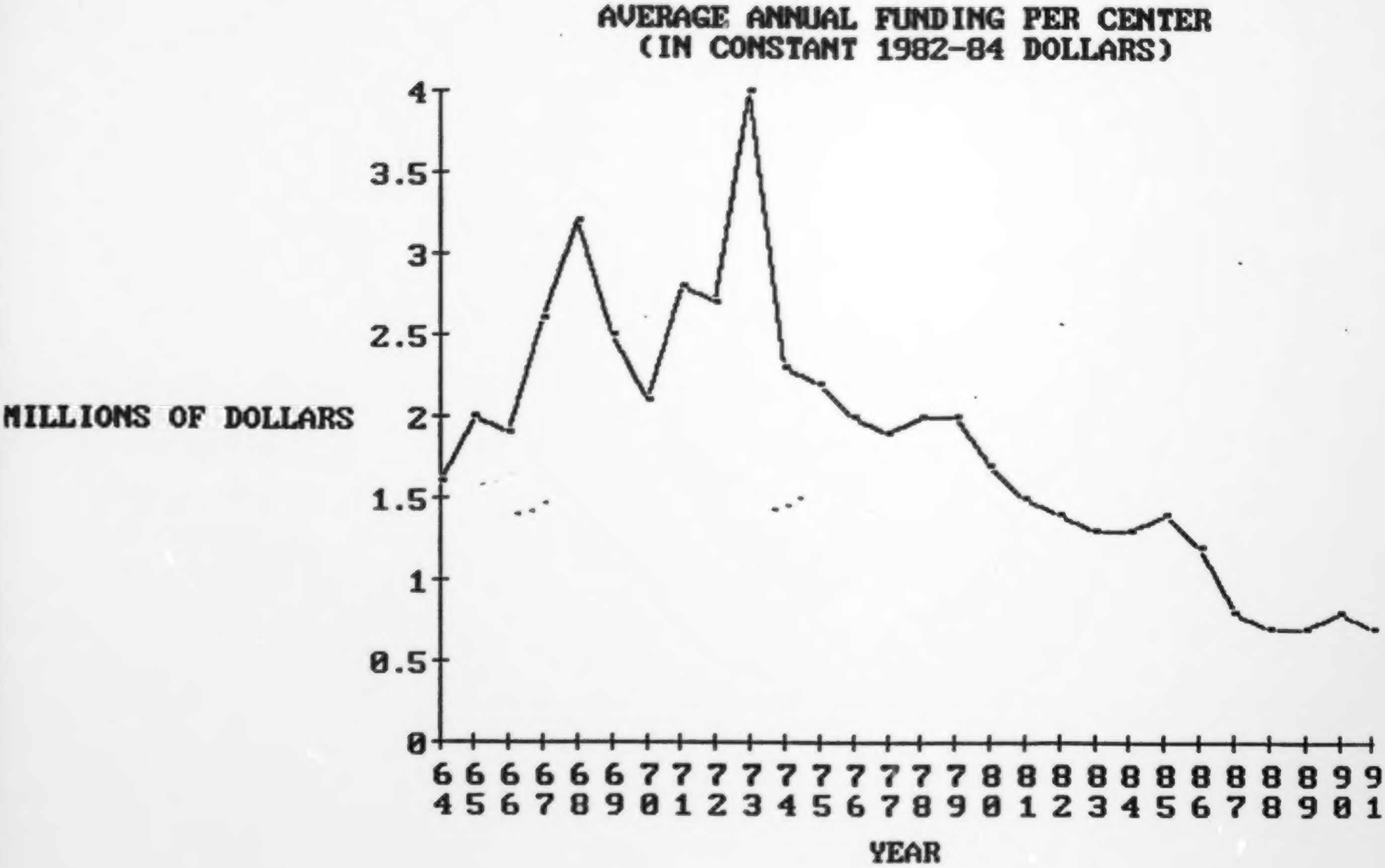
[8] For an analysis of the activities of education research centers in the 1960s, see Sam D. Sieber, Reforming the University: The Role of the Social Research Center (New York: Praeger, 1972).

[9] John Gardner, "Report of the President's Task Force on Education" (November 14, 1964). Available at the LBJ Presidential Library, Austin, Texas. For a very useful analysis of the activities of that task force, see Charles Philip Kearney, "The 1964 Presidential Task Force on Education and the Elementary and Secondary Education Act of 1965." Unpub. Ph.D. diss., University of Chicago, 1967.

FIGURE 1


AVERAGE ANNUAL FUNDING PER CENTER
(IN CONSTANT 1982-84 DOLLARS)
MILLIONS OF DOLLARS
0
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1
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3
3.5
4
YEAR
64
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> From a review of documents which discuss the origins of labs and centers, and a review of subsequent documents produced by, or about, labs and centers, it is evident that while the initial expectations for their roles and functions were obscure and shifting, they did differentiate labs from centers in terms of fundamental roles and functions.... The initial expectations appeared, amid the flux and flax from which they emanated, to differentiate labs from centers primarily in terms of the extension beyond research expected of labs; the problem foci expected of both were to be attacked more by the research of centers and the developmental efforts of labs; and the independent regionality of labs was in contrast to the university-based and administered R&D center.[10]

While the distinction between centers and labs in terms of their relative emphasis on basic and applied research, development, and dissemination appears to have been maintained in principle over the years, there is a continuing tension within these two sets of institutions as well as between them over the proper mixture of these activities. Indeed, the charge has been frequently made that the distinctions between centers and labs have often disappeared in practice if not in theory. Walker concluded that by the spring of 1972:

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[10] Jerry Phillip Walker, "An Analysis of Differential Perceptions Toward Educational Research and Development Held By Professional Staff Members of Research and Development Centers and Development Laboratories", Unpub. Ph.D. diss., Ohio State University, 1972.

> It can be seen then, that although a clear written policy and set of guidelines do not yet exist whereby the performance of laboratories and centers is delineated in terms of expected roles and functions, a variety of documents, events, and signals indicate that the expectations for the performance of both labs and centers have, by design or default, been consolidated.[11]

Nevertheless, despite the blurring of expectations between the centers and the laboratories, most participants and outside observers seem to believe that some distinctions in emphasis do continue to exist between these two sets of institutions. Indeed, most of the outside reviews of centers and laboratories reaffirm the importance of that distinction. For example, the congressionally-mandated panel that assessed the centers and laboratories in 1979 concluded that:

> The Panel finds virtue in maintaining the distinction between the purposes of laboratories and centers. We have seen and find desirable the considerable overlap in their activities. Nevertheless we affirm the need for the two types

---

[11] Walker, "An Analysis of Differential Perceptions," p. 19.

> of institutional capacity. Centers should direct their efforts within an educational problem area of national importance, initially determined by NIE. Through emphasis on basic and applied research, centers should exercise national leadership in their problem areas. This research could lead to appropriate development and dissemination activities related to the problem area.
>
> Laboratories, in contrast, should address a larger spectrum of educational problems. These problems will be defined by their regional constituents. In pursuit of their priorities, laboratories are likely to engage in a mix of applied research, development, evaluation, technical assistance, and dissemination activities.[12]

In terms of the activities of the centers, perhaps one of the major differences of opinion among analysts is over the amount of time that the centers should devote to basic research. Although the distinction between basic and applied research is often hard to identify or maintain in practice, there is general agreement that most R&D centers do not produce much basic research. In part, this is because initially the Office of Education separated its commitments to fundamental research from its efforts to improve education through research and development. As Chase observed, without voicing any disappointment or disapproval:

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[12] Panel for the Review of Laboratory and Center Operations, Research and Development Centers and Regional Educational Laboratories: Strengthening and Stabilizing a National Resource. Final Report, National Institute of Education (Washington, D.C.: U.S. Department of Education, 1979), p. iv.

> The centers and laboratories, however, were not conceived as organizations devoted primarily to basic research; and few, if any have adequate concentrations of scientific or other scholarly talent to lay out research designs for fields as loosely specified as higher education or raising the quality of education in a region.[13]

The National Research Council's analysis of fundamental research in 1977 agreed with Chase that relatively little basic research was being done by most of the centers. But rather than accepting this either as inevitable or desirable, they protested and urged the National Institute on Education (NIE), the successor to the Office of Education, to emphasize the importance of fundamental research more in their programs. They pointed out that one of the four explicit goals for NIE was support for fundamental research.[14]

The National Research Council's more recent analysis of the Office of Educational Research and Improvement (OERI) reiterated the call for a more balanced portfolio of activities--including an expansion of support for basic research. As they put it, "the centers should undertake considerable more basic research than they currently do."[15]

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[13] Chase, "The National Program of Educational Laboratories," p. 17.

[14] Sara B. Kiesler and Charles F. Turner, Fundamental Research and the Process of Education (Washington, DC: National Academy of Sciences Press, 1977).

Just as there is a tension within the centers on how much funding should be devoted to basic, applied, or developmental research, there is also disagreement over how much effort should be paid to the dissemination of their findings. Historically, it was anticipated that the labs rather than the centers would devote more attention to dissemination. As with many of the other overlapping activities between the labs and centers, that distinction in practice has often been eroded.[16]

Indeed, there has been continued pressure on the centers by the Congress as well as OERI itself to devote more effort to disseminate their research findings to teachers and to the public as well as to other scholars. For example, in the instructions for applications for grants under the Educational Research and

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[15] Richard C. Atkinson and Gregg B. Jackson, eds., Research and Education Reform: Roles for the Office of Educational Research and Improvement (Washington, DC: National Academy Press, 1992), p. 150.

[16] One should also note that from the very inception of the National Institute of Education (NIE) often there were disagreements over the role NIE would play in disseminating the results of its work to local schools. Whereas Elliot Richardson, the Secretary of the Department of Health, Education, and Welfare, minimized the role of NIE in directly disseminating research findings to local educational institutions, some of those on the House Select Subcommittee on Education stressed the importance of NIE being more involved in such an activity. U.S. Congress, House, Committee on Education and Labor, To Establish A National Institute of Education: Hearings Before the Select Subcommittee on Education, 92nd Congress, 1st Session (Washington, DC: U.S. Government Printing Office, 1971).

Development Center Program, the primacy of their research agenda was acknowledged.[17] But the application instructions also directed, in bold letters, that "**Each Center Is Expected to Engage in an Active Dissemination Program.**" Moreover, "[i]n addition to actively disseminating their work, Centers are expected to answer or refer requests from people throughout the country."[18] While no one disputes the value and importance of dissemination, there is some question of what is the most effective and efficient way of proceeding.

Some feel strongly that centers and researchers should disseminate their own materials. For example, Susan Fuhrman, director of the Consortium for Policy Research in Education at Rutgers University, cogently argues that researchers should play an important role in dissemination rather than just relying upon others.[19] Others have doubts about the recent emphasis on dissemination. Many of those who question the emphasis on dissemination by the R&D centers today do so because they believe that it comes at the expense of the quality and quantity of research done by the centers. If the centers were larger and better funded, they would not necessarily object to centers doing dissemination.

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[17] "OERI's primary purpose continues to be to provide the research base necessary to define and analyze specific educational problems so that teachers and other practitioners, parents, and policymakers can improve the quality of education." Office of Research, OERI, Application for Grants Under the Educational Research and Development Center Program (Washington, DC: U.S. Department of Education, 1990), p. 24.

[18] Office of Research, Application for Grants, 1990, p. 26. Christopher Cross, the Assistant Secretary for OERI, was particularly interested in having all of the centers increase their activity in dissemination. He was also a prime mover behind the efforts to establish the Dissemination and Knowledge Utilization Center.

[19] Susan H. Fuhrman, "Uniting Producers and Consumers: Challenges in Creating and Utilizing Educational Research and Development." Paper presented at the International Seminar on Educational Research and Development, Washington, DC, June 1-2, 1992.

One fundamental change that has occurred in the functioning of the centers is a significant reduction in the amount of money (in constant dollars) that are available for this activity while at the same time consuming an increasingly large proportion of the NIE (or OERI) total research budget. The expenditure on centers (in constant 1982-84 dollars) rose from $3.2 million in FY64 to $48.2 million in FY73--the high point in center funding (see figure 2). But then it plummeted to $27.1 million for FY74 and has continued to drop until it seems to have levelled off at $15.6 million for FY91.[20] Moreover, as the overall research budget for NIE/OERI dropped even more dramatically than for either the centers or the labs, their percentage share of total resources improved significantly--often to the dismay of other researchers who would have preferred that the funds for field-initiated research had been preserved more. One result of this dramatic change is that at the same time that the R&D centers found their funding significantly reduced, there were even greater expectations placed on them as centers and the labs received most of the reduced remaining research dollars in NIE and OERI.

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[20] See footnote 6 for a discussion of the data sources for these calculations.

Insert figure 2

At the same time that the total funding in real dollars for centers was being cut drastically, decisions were made at several points to increase the number of centers--especially in the last five or six years. With 14 of the centers expiring in 1989, the Office of Research in OERI initiated a series of activities to identify what areas of inquiry seemed to be the most profitable and to decide how many centers should be established. Initially, OERI concluded that 12 centers should be established, but then added another 7 projects for consideration.[21] Finally, Christopher Cross, the Assistant Secretary of Educational Research and Improvement, recommended that 18 new centers be funded--thus making a total of 25 centers supported by OERI.[22]

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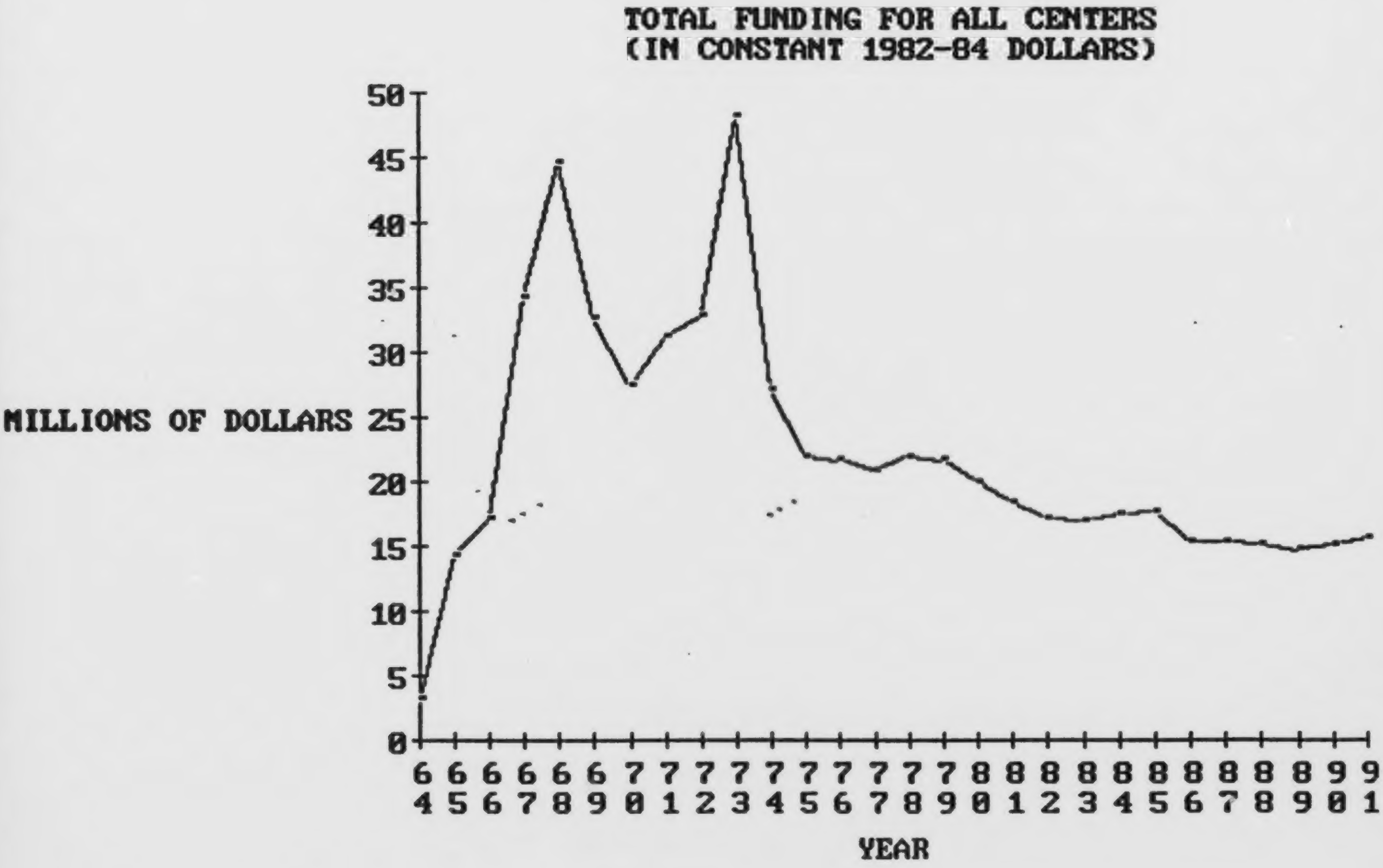
[21] In late 1989, the Office of Research (OR) considered three options--fund 12 centers, fund 5 larger centers, or fund 9 medium sized centers. There was strong support within OR for the funding of 5 centers with an annual average of $2.0 million (in current dollars), but that suggestion was rejected. The five centers would have been (1) Student Learning; (2) Families, Communities, and Young Children's Learning; (3) Middle Grades and High Schools in the Inner Cities; (4) Learning to Teach; and (5) Education Policies and Student Learning. Instead, they continued with the idea of 12 centers, with an annual average of less than a $1.0 million, which then was expanded by the addition of 7 more centers for consideration.

[22] Christopher T. Cross, "Approval Concurrence of the Centers to be Competed in the FY 90/91 National Educational Research and Development Centers Competition" (memo to the Secretary of Education, January 22, 1990. The final decision was option 3 which called for the funding of the original 12 proposed centers, the Dissemination and Knowledge Utilization Center, and as many of the

FIGURE 2


TOTAL FUNDING FOR ALL CENTERS
(IN CONSTANT 1982-84 DOLLARS)
MILLIONS OF DOLLARS
50
45
40
35
30
25
20
15
10
5
0
64
65
66
67
68
69
70
71
72
73
74
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YEAR

As a result, whereas there were 10-12 centers during the 1970s, there are now 23. This means that the average amount of funding (in constant dollars) per center has significantly dropped from $2-$4 million in the early 1970s to less than $800,000 today. Consequently, the entire meaning of a national center changed over time because the current level of funding is so much less than had been envisioned or provided earlier.

The National Research Council's recent examination of OERI bemoaned the small amount of funding for the existing centers and recommended a substantial increase.

> The committee cannot imagine a robust R&D center operating at much less than $3 million annually in core funding [current dollars]. Without that level of support, there will not be the critical mass, diversity of expertise, and scale of operation that are needed to tackle the difficult research problems and development efforts that confront the national schools.[23]

Given the surprisingly small amount of total money that actually goes into research, as we shall later see, the National Research

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other centers as funding would allow. The Center for the Teaching and Learning of the Arts, which was to be co-sponsored with the National Endowment for the Arts (NEA), was dropped because NEA decided not to support that activity. Eventually, all 18 of the final proposed set of 19 centers were funded by OERI.

[23] Richard C. Atkinson and Gregg B. Jackson, eds., Research and Education Reform, pp. 150-151.

Council's recommendation for the minimum size of a center actually may be too small to carry out fully the tasks that they envision for each of the new centers.[24]

Another continuing source of change in the centers is the expectations of their longevity and stability. Originally the centers were envisioned to be institutions that were reviewed and renewed on a long-term basis. A "three-five plan" was instituted which meant that centers were evaluated in their third year to determine if they should be funded for another five years.[25]

With the establishment of the National Institute of Education (NIE) in 1972, support for institutions such as the centers was reconsidered. A decision was made to continue centers and laboratories, but to introduce more competition through a "program purchase" policy. That is, labs and centers now had to compete with each other as well as with other organizations for funding for specific projects from NIE--a situation made all the more difficult by the sizable decreases in the overall NIE budget. To counter this move toward more competitiveness during a period of total budget decreases, the labs and centers banded together in an effort to get the Congress to earmark special funds within the NIE budget for their exclusive use.[26]

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[24] The National Research Council study did not investigate in any detail exactly how the funds of the existing centers are being utilized or just how much money remains for research once the overhead, the administrative costs, and the expenses of dissemination are paid.

[25] Mason, "Two Decades of Experience."

Ronald Campbell headed a group of consultants who re-examined, among other things, the NIE's policies toward the centers in 1975. They rejected the idea of the "program purchase" for the R&D centers and recommended "stable funding for three to five years, at a level of at least $3 to $4 million per year" (or about $5.6 to $7.4 million in constant 1982-84 dollars).[27] The National Council on Education Research (NCER), the policy-making advisory group for NIE, accepted the recommendations of this report and began to implement them.[28] The earlier "program purchase" policy of NIE was abandoned.

As part of the reauthorization of NIE in 1976, the Congress called for a panel of educators to review and make recommendations about the R&D centers and regional laboratories. The 15 members of the Panel unequivocally endorsed the continuation of these institutions:

> The Panel strongly endorses the concept of research

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[26] Lee Sproull, Stephen Weiner, and David Wolf, Organizing an Anarchy: Belief, Bureaucracy, and Politics in the National Institute of Education (Chicago: University of Chicago Press, 1978).

[27] Ronald F. Campbell et al., R&D Funding Policies of the National Institute of Education: Review and Recommendations. National Institute of Education (Washington, D.C: Department of Health, Education, and Welfare, 1975), p. 79. Note how much larger the proposed centers would be according to the Campbell groups compared to the recent recommendations of the National Research Council.

[28] Mason, "Two Decades of Experience."

> and development centers and regional educational laboratories and affirms the importance of maintaining and improving the stability and quality of the existing institutions. While finding considerable differences among the individual centers and laboratories as to their strengths and weaknesses, we find most of them now ready for long-term relationships with NIE.[29]

The Panel explicitly repudiated the "program purchase" approach and returned to the original concept of five-year agreements that are renewable after a favorable third-year review.[30]

In the early 1980s there were some major changes in the structure and functioning of NIE in regard to the centers and labs. First, a separate Department of Education was created and the Office of Educational Research and Improvement (OERI) was set up to oversee NIE, the National Center for Education Statistics (NCES), the Library Programs, and several other small programs (but NIE remained as a semi-autonomous entity until 1985). Center programs continued to be monitored by the relevant unit within NIE, but now each center also had a program monitor assigned to it. Moreover, a Laboratory and Center Coordinator was established to oversee the operations of these entities within NIE.[31]

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[29] Panel for the Review of Laboratory and Center Operations, Research and Development Centers, pp. iii-iv. The panel recommended that NIE enter into long-term agreements with seven of the existing nine centers and seven of the eight laboratories.

[30] Panel for the Review of Laboratory and Center Operations, Research and Development Center, pp. iv, vi.

Second, the election of Ronald Reagan in 1980 heralded some major changes in the role of the centers. The ongoing effort by some to reverse the policy of supporting the labs and centers almost indefinitely (no center or lab had lost its funding from NIE since 1976) appeared to succeed when Congress inserted in its report for the Omnibus Budget Reconciliation Act of 1981 that "the Regional Educational Laboratories and Educational Research Centers shall, upon completion of existing contracts, receive future funding in accordance with government-wide competitive bidding procedures."[32] In March 1982 Edward Curran, the new Director of NIE, announced that NIE planned to terminate the existing five-year contracts for 15 of the 17 labs and centers one year ahead of schedule. His actions immediately provoked angry responses from the centers and labs as well as from other influential educators and some members of the U.S. Congress. While most of them did not challenge the principle of competition for refunding these institutions, they questioned the legality and wisdom of unilaterally terminating the funding of the existing centers and labs.[33]

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[31] Mason, "Two Decades of Experience." For an analysis of the creation of the U.S. Department of Education, see Beryl A. Radin and Willis D. Hawley, The Politics of Federal Reorganization: Creating the U.S. Department of Education (New York: Pergamon Press, 1988).

[32] Quoted in Philip Phaedon Zodhiates, "Bureaucrats and Politicians: The National Institute of Education and Educational Research Under Reagan." Unpub. Ed.D. diss., Harvard University, 1988, p. 81.

Curran's attempt to terminate quickly the existing labs and centers failed, but the idea that such institutions would have to compete openly in the future succeeded. Beginning in 1985 a competition was set up for future labs and centers with the clear understanding that all of them again would have to face another open competition five years later (assuming that OERI support for their particular area of research continued). Indeed, of the 13 centers that were in operation during the late 1980s, 3 were terminated and only 5 successfully competed for continuation in 1990 (out of 8 that had applied).[34] Thus, centers now are seen as temporary, five-year institutions which must recompete for continuation every five years if OERI decides to support future research in that area.

While not arguing against the principle of competition for the selection of centers, the National Research Council laments the instability created by having each center recompete frequently since "the 5-year cycles are inconsistent with the need for the repeated iterations of research, development, demonstration, and evaluation, which often require a decade or more."[35] Instead, they envision centers which might be created for 10 or 15 years and terminated only for inadequate performance.

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[33] Zodhiates, "Bureaucrats and Politicians."

[34] Richard C. Atkinson and Gregg B. Jackson, eds., Research and Education, p. 124 .

[35] Richard C. Atkinson and Gregg B. Jackson, Research and Education Reform, p. 151. Ironically, as we shall see later in this report, much of the work of the centers is fragmentary and non-cumulative. ence the rationale for having more stable centers seems less persuasive under the current functioning of those institutions.

> The centers generally did not compete until the 1980s, and there is ample precedent in other federal agencies for negotiated renewals. One option would be to have competitions only every 10 or 15 years. During the interim period, accountability would be achieved by continuous monitoring and feedback, by periodic formal evaluations, and by basing a portion of the federal contribution at each 5-year renewal on the evaluations. A panel of researchers, developers, teachers, and administrators could be assembled in the fourth year to review internal and external evaluations of all the centers and judge their performance. OERI would adjust its contribution to each in response to the judgments; termination would be used only in cases of inadequate performance.[36]

Certainly the National Research Council is correct in arguing that many educational ideas and innovations require more than a decade to be fully researched and developed. There are, however, some practical difficulties involved in not recompeting centers more often than every 10 or 15 years. First, if the overall number of centers are reduced as the National Research Council suggests, then it may be frustrating for a new administration not to be able to redirect fundamentally some of the major research activities in the centers during their four- or eight-year tenure. Second, if a decision is made to fund centers for 10 or 15 years, it would be important to have them gradually phased in so that the opportunity to create at least one new center would occur sooner than if all of the centers were established at the same time. Third, the National Research Council's recommendation depends, as they acknowledge, on the ability of OERI to closely monitor and influence the quality and direction of a center's activities--something which has not always been true of their supervision of the existing centers.

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[36] Ibid.

Throughout the past three decades, the quality of research in education has often been regarded by the public and policy makers as inadequate and second-rate compared to that in the sciences or even in the other social sciences. While these observations and impressions may not be accurate, they have nevertheless seriously hurt the image of OERI and minimized support for activities such as the R&D centers.[37] Given this long-standing concern about the quality of the research sponsored by NIE/OERI, it is surprising and disappointing to discover that almost none of the major evaluations of the centers have attempted to investigate the quality of their research.

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[37] For an excellent analysis of the disrespect for research in education historically as well as today, see Carl F. Kaestle, "Everybody's Been To Fourth Grade: An Oral History of Federal R&D in Education." Final Report to the Committee on the Federal Role in Education Research, National Academy of Sciences (September 1991).

Some of the early assessments of centers did not look closely at the research because these institutions had just been created. Thus, an early congressional study of the U.S. Office of Education explained that "an in-depth evaluation of the work of the Centers was not undertaken by the subcommittee as most of the Centers are only 12 to 18 months old." Nevertheless, the subcommittee, on the basis of discussions with the Office of Education as well as reading some of the center evaluations, concluded that "the Centers vary widely in quality."[38]

Most of the other major evaluations of the centers simply did not attempt to assess the quality of the research. For example, the large-scale analysis of the publications of the regional laboratories and research and development centers in the early 1980s focused on a content analysis of the types of publications produced rather than the quality of the work.[39]

Although the recent National Research Council analysis of OERI initially planned to look at the quality of the research produced, due to time and financial constraints they decided to omit this phase of their investigation altogether.[40] As a result, while they conclude that "OERI has a checkered history in respect to quality assurance," they do not attempt to ascertain what this has meant in practice for the quality of research produced at the R&D centers.[41]

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[38] U.S. Congress, House, "Study of the United States Office of Education," p. 224.

[39] Kendall O. Price, "Creating and Disseminating Knowledge For Educational Reform: Policy Management of the National Institute of Educations's Regional Educational Laboratories and National Research and Development Centers." Final Report to the National Council on Educational Research, U.S. Department of Education (January 1984).

[40] The National Research Council's proposal of work in August 1990 specifically stated that "the study will include a close look at the institutions and activities supported by OERI for the

Finally, it also should be noted that none of the evaluations of the centers have ever examined closely the budgets. Although several of the reports have commented on the diminishing amount of money (in constant dollars) available at the centers, they have not attempted to ascertain what proportion of the funds actually go to activities such as research or dissemination. Nor have they attempted to see what variations exist among the centers at any given time in the amount of funding for these activities. As a result, neither the quality of the research nor the amount of funds expended upon it have been analyzed or evaluated.

II. Assessment of the Research Centers Today

To analyze the quality of recent research produced by OERI's research centers, five current and two former centers were examined in considerable detail. The five current centers are:

1. Center for Research on Effective Schooling for Disadvantaged Students (primary

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conduct of education research, particularly the labs and centers,"

[41] Richard C. Atkinson and Gregg B. Jackson, Research and Education Reform, p. 126.

site at Johns Hopkins University).

2. Center for Research on Evaluation, Standards, and Student Testing (primary site at UCLA).

3. National Resource Center on Student Learning (primary site at the University of Pittsburgh).

4. National Center for the Study of Writing and Literacy (primary site at University of California, Berkeley).

5. Policy Center of the Consortium for Policy Research in Education (primary site at Rutgers University).[42]

The two former centers are:

1. National Center for Improving Science Education (primary site at Andover. MA.).

2. National Center on Education and Employment (primary site at Teachers College).

The seven centers were suggested by the staff of the Office of Research (OR) in OERI--in part because they exemplify the variety of activities in the research centers as well as because they display considerable variation in the type and quality of research produced. They are by no means intended to be representative of the other 20 research centers in existence today--though they undoubtedly reflect some of the strengths and weaknesses of those institutions as well.[43] As we shall later see, the five current centers investigated are significantly larger than those that were not analyzed in more detail. Therefore, while some of the specific assessments of these particular centers cannot and should not necessarily be applied to all of them, it is unlikely that a more extensive study of all 23 centers would have significantly altered the overall conclusions of this analysis.

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[42] For convenience in discussing these centers, they will often be referred to by the designated name of their primary site. The Center for Research on Effective Schooling for Disadvantaged Students, for example, will sometimes be referred to simply as the Johns Hopkins Center.

All of the available published and unpublished materials submitted to OERI by each of the seven centers since 1985 were scrutinized.[44] The budgets of the centers were examined with particular attention to the information for FY92 for the five ongoing ones.[45] The original proposals for the centers were read as well as the comments of the reviewers who considered them for funding.[46] In addition, for most of the centers, the third-year renewal applications and the comments of their reviewers were examined. Moreover, the written comments of the OERI center monitors and the responses of the centers to these suggestions were analyzed. All five of the ongoing centers were visited which provided an invaluable opportunity to discuss their research work as well as their other activities.[47] Each of the OERI center monitors for these seven institutions were interviewed (most of them more than once). Copies of an earlier version of this essay were distributed within OERI for comments and an OR staff seminar was devoted to a discussion of the contents of this report. A revised version of this report was sent to both the center and laboratory directors for comments. The Mary Kennedy, chair of the Organization of Research Centers (ORC), provided extensive comments on the draft report.[48]

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[43] In order to be able to examine the quality of research, it was advisable to select current centers that had already been in operation before 1990 so that an ample set of research products were already available for inspection. Therefore, some of the new centers funded in 1990 or thereafter were systematically excluded from this more detailed scrutiny. One might object that since all of the centers investigated existed prior to 1990, it biases the analysis toward the more successful ones (which were able to win in the next round of competition). The inclusion of two former centers which were not successful in recompeting in 1990, however, helps to correct for that potential bias. For a list of the current centers, see appendix B.

[44] The relevant materials were assembled by the OERI center monitors from their own files. For the five ongoing centers, most of the written materials for them were produced in the five-year period prior to 1990.

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[45] The special attention to the FY92 budgets was because they contained more detailed information about the budgets of the individual research projects. For the period 1985-1990 most of the centers did not provide detailed budget breakdowns for their individual research projects.

[46] For most of these centers, the 1985 original application as well as the 1988 renewal packets were examined. In addition, for many of them the 1990 grant application was also examined.

[47] The Berkeley Center was visited on June 5-6, 1992, the UCLA Center on June 7-8, the Johns Hopkins Center on June 17, the Rutgers Center on July 13, and the Pittsburgh Center on August 20.

[48] A copy of her letter as well as of my specific reactions to her criticisms can be found in appendix C.

A. Distribution of Research Activities of Centers

As we have already discussed, the centers have greatly diminished in size over time. In constant dollars, the funding for the average center today is about one third that of its counterpart more than twenty-five years ago. Today, most of them are no longer the large-scale national institutions that were envisioned initially. In FY92 there were 23 centers with a total funding of $26.8 million (in current dollars). Or, the average center was funded at an annual rate of about $1.2 million. Only five of the 23 centers received at least $1.5 million and four of them were funded at less than a $1 million. The Center on Assessment, Evaluation, and Testing (UCLA) received the most support from OERI--$2.7 million.

While an annual rate of funding of about $1.2 million may appear to be a large amount of money, it is important to realize that not all of this money goes directly to support research. Instead, a substantial portion of the funds are allocated for other expenditures such as overhead, administration, and dissemination. Therefore, in order to examine the amount and distribution of funds expended for research, a more indepth analysis of the FY92 budgets of the five current centers was undertaken.

The centers at Berkeley, Johns Hopkins, Pittsburgh, Rutgers, and UCLA were funded at a higher level than the others. The average annual funding in FY92 for these centers was $1.7 million while the comparable figure for the remaining 18 centers was only

$1.0 million.[49] Four of the five centers investigated received at least $1.5 million and the other one got $1.0 million.[50]

Indirect costs are given to research institutions to defray such expenses as maintaining buildings and providing administrative assistance. These indirect costs vary from one university to another and are usually a set, negotiated percentage of the direct costs of a project. There is also considerable variation among institutions on just how much, if any, of the indirect costs are given back directly to the unit doing the actual research. For these five centers, the indirect costs represent a substantial expenditure. Of the $8.5 million provided by OERI to these centers in FY92, approximately $2.35 million went for indirect costs--or 27.6 percent of the total funding.[51] The proportion of money spent on indirect costs varies considerable among the centers--from about 22 percent to 36 percent of the total funds (see figure 3).

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[49] The information for the more detailed examination of the FY92 budgets came from the Application for Continuation, Part I and Part II. The data were analyzed by hand because the computerized OERI Project Management Information System's (PMIS) did not provide the type of categories about research expenditures that were necessary for this analysis.

[50] Thus, four of the five largest centers were used in this analysis--including the UCLA center which received the $2.7 million. It is important to note, however, that almost all of these five centers were considerably smaller in the period FY86 to FY90. The average size of these five centers in FY90 was $1.14 million (in current dollars) and $1.68 million in FY92--a 47 percent increase. The UCLA Center in particular experienced the largest increase in funding, from $1.0 million in FY90 to $2.7 million in FY92. As a result, while these five centers are relatively large in FY92 compared to the others, prior to FY91 they were much closer to them in size and therefore the products that are available from that earlier period are more typical and representative of the other centers at that time.

[51] The 27.6 percent is not the rate of indirect costs, but the proportion of the total funds that went to this item. If one calculates the rate of overhead based upon the overall direct costs of these five centers, that figure is 38.1 percent. Since any

Insert figure 3

Administrative expenses and the costs of disseminating their findings are major expenditures for most centers. As we noted earlier, OERI has often emphasized the importance of dissemination and expects centers to play an important role in this process. Since some of the centers in their budget reports did not always clearly differentiate between the costs of administration and dissemination, it was necessary to group these expenses together here.[52] Overall, 19.6 percent of the funds for these five

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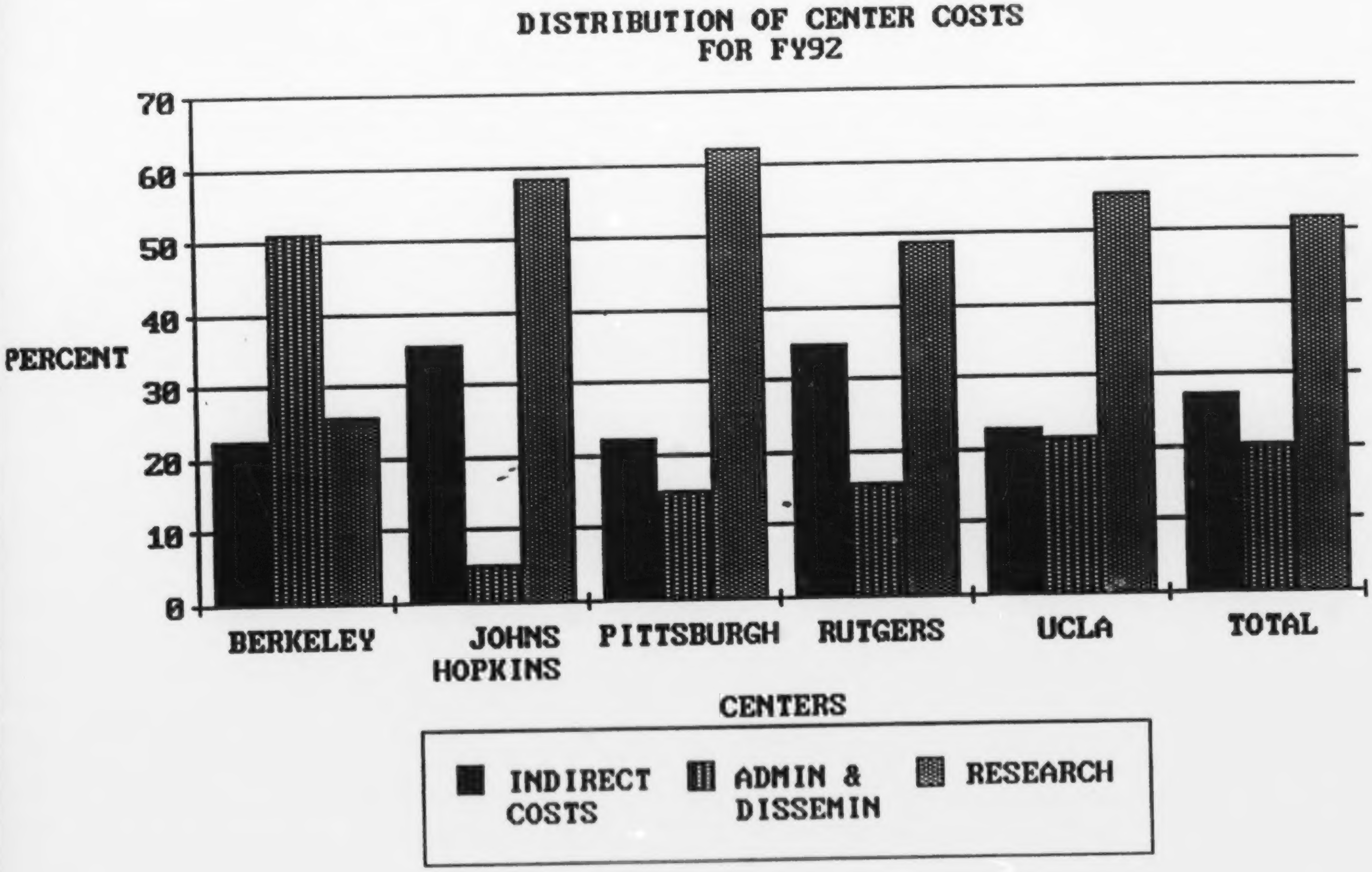
given center often has several colleges and universities that participate in its activities, the indirect rate for each of them can vary substantially. One of the difficulties with OERI's current computerized PMIS is that it does not always allow the analyst to distinguish the indirect costs from the direct ones. For example, in PMIS printouts one can distinguish the direct and indirect costs for the primary site institution, but not for the subcontractors. Although this information is usually available in the original budget application forms, the current computerized PMIS does not make that distinction. Another problem is that occasionally the centers failed to provide detailed information on the budgets of the subcontractors. In these few instances it was necessary to contact the center to obtain that necessary information.

[52] Most centers did provide data on the costs of administration and dissemination, but some did not distinguish between the two (and sometimes, of course,it might be difficult to entirely separate these out since some of the project administrators were also very active in disseminating the results of their center's research). Moreover, since some of the research projects also include money for dissemination, it was necessary to estimate that amount using information from the distribution of activities as reported by the centers on their Project Input Forms for their continuation budgets. Naturally, these activities

FIGURE 3


DISTRIBUTION OF CENTER COSTS
FOR FY92
70
60
50
40
30
20
10
0
PERCENT
BERKELEY
JOHNS HOPKINS
PITTSBURGH
RUTGERS
UCLA
TOTAL
CENTERS
INDIRECT COSTS
ADMIN & DISSEMIN
RESEARCH

centers went for administration and dissemination. There was even more variation in their expenditures for administration and dissemination than for their indirect costs (see figure 3). Whereas the Johns Hopkins Center spent only 5.3 percent of its total funds for these activities, the Berkeley Center spent 51.3 percent.[53]

One of the interesting, but difficult policy issues is how should OERI interpret the indirect and administrative costs of the centers. The indirect rate for each university has already been established through negotiations and covers the overhead expenses of maintaining research activities--including some funds for general administrative purposes. Therefore, how much additional funding is needed to cover the expenses of running the centers? And should centers such as the one at Johns Hopkins be expected to charge less for administrative costs because their relative rate for indirect costs is considerably higher than that of some of the other institutions like the Berkeley Center?[54]

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distributions are only approximations and therefore the final figures for dissemination are only estimates.

[53] It should be noted that the Johns Hopkins Center did devote a lot of effort to dissemination, but they did not charge OERI for that activity. Therefore, the variation in the amount of money spent does not always reflect the actual amount of effort made since the source of the funding for these activities might vary from one center to another. For example, some of the administrative costs in one center might be paid by the indirect costs while comparable services at another center might be charged directly to OERI.

[54] In fact, the Johns Hopkins Center does not charge OERI very much for administering the center compared to some of the other centers which have a lower indirect cost rate.

One should also note that some of the centers work very hard

The net result of the expenditures for overhead, administration, and dissemination is that the amount of funds available for research is considerably smaller. Overall, only 52.9 percent of the total money for these five centers was devoted to research. Again, there was great variation among the centers in how much they spent on research (see figure 3). Whereas the Berkeley Center spent only 26.0 percent of its overall funds for research projects, the Pittsburgh Center spent 62.5 percent. Thus, whereas the average annual grant for these five centers was $1.7 million, the average amount actually spent on research was only $890,991 (and ranged from $260,262 at the Berkeley Center to $1,501,441 at the UCLA Center).[55]

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to reduce the overall amount of indirect costs in order to have more money for other activities. Sometimes this is done by categorizing research expenses such as supplies under administrative costs (if administrative costs are not subject to indirect costs). Other centers try to have their facilities off-campus which have lower indirect cost rates. Reducing the indirect costs can have a very large impact on the amount of money available for research, but centers are reluctant to discuss publicly their tactics to reduce those expenses because this might upset university officials who would like to have more indirect costs.

[55] The figures provided only indicate the amount of OERI funds spent on research. Some of the centers supplement their OERI monies with cost-sharing contributions of salaries, services, or space. For example, the Rutgers Center contributes an additional $123,530 for their research projects--about a one-sixth increase over their OERI-funded portion of the research budget.

The overall budget of some of the centers is also supplemented by outside funding. The direct research funds at the Rutgers Center rises from $859,413 to $2,156,327 (including over $100,000 from another one of the OERI-funded centers). Interestingly, the proportion of NIE/OERI funds for the Pittsburgh Center has declined considerably over time (1975--82.6 percent; 1984--56.3 percent; 1988--29.7 percent; 1993--12.8 percent). Most centers, however, appear to be much more heavily dependent upon OERI funds than either the Rutgers or Pittsburgh Centers.

Given the rather modest amount of money devoted to research at the five centers, they had the choice of concentrating it on a few large projects or spreading the money among several smaller ones. Although the definition of an individual research project may not be identical among the centers, the analysis of these particular institutions suggests that most centers chose to fund multiple research projects. The number of separate research projects for these five centers ranged from 9 to 25 (most of them reported about 10 research projects)--and some of these were even further subdivided in practice.[56] As a result, the total annual amount of money directly available for any given project was rather modest and in effect usually precluded any large-scale research undertakings. While only 30 percent of the reported individual research projects in FY92 received more than a $100,000 in direct costs, almost half of them were funded at less than $50,000 a year.[57] Moreover, given the substantial salary costs for many of the academics and professionals (including their fringe benefits), it meant that most researchers were paid only to devote a very small fraction of their time to these projects--often just one or two months during the summer.[58] Although the pressures to act as a national research center contributed to the desire to provide broad coverage through multiple projects, the limited funding meant that most of the research funded by the centers could not really address systematically many of the larger questions in the field.

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[56] The Johns Hopkins Center listed 25 individual research projects, but some of these were small subprojects of a larger effort. If one compares the Johns Hopkins Center research projects to those of other centers, the actual number of different projects probably would be rather similar. For example, while the UCLA Center lists only a few larger projects, in practice many of them are composed of several smaller ones.

[57] Naturally, if centers use cost-sharing or outside funds to supplement their OERI-funded research projects, the distributions reported here would exaggerate the number of small research projects. However, most of the centers do not appear to use their outside funding to supplement their individual OERI-funded projects (though the new projects created may complement the work being done on an OERI-funded project). Moreover, while cost-sharing certainly may enhance the size of some of the smaller research projects, its overall effect is still probably unlikely to change the general picture very much. In any case, it certainly would be useful to undertake a much more indepth examination of how money is spent on

B. Research Topics of Centers

There has always been considerable variation in the types of research that centers have done. As pointed out earlier, there has been a long and continuing tension between doing basic and applied or developmental research in the centers. Therefore, it is useful to look at the distribution of the types of research by the five centers. According to the Project Input Forms for FY92, research was subdivided into seven categories: (1) policy studies, (2) evaluation, (3) basic research, (4) applied research, (5) development, (6) statistics, and (7) dissemination. Naturally,

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individual research projects--especially since the definition of an individual research project is not always consistently or clearly specified by the centers on the PMIS forms.

[58] The recent National Research Council study of OERI discovered that the principal investigators of the research spend only an average of one-fourth time on their center-funded work. Richard C. Atkinson and Gregg B. Jackson, Research and Education Reform, p. 65. Undoubtedly many of the academics and professionals involved in these research projects devoted more time to them than they were paid by the OERI grant.

there is considerable overlap among these categories and centers appear to vary amongst themselves on how to classify similar types of research.[59] Since the dissemination activities were already considered earlier, this analysis will confine itself to the first six categories.

Given the nature of the categories and how this information was assembled, it does not make much sense to analyze the results too closely. It is clear that among these five centers, very little attention is being given just to assembling statistics (see figure 4). Almost half of the research projects were designated as applied (43.3 percent) and evaluation and development were closely split (11.3 percent and 13.5 percent respectively). Among the five centers, there were large differences in their distribution of research in these categories. For example, the Rutgers Center for

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[59] The information on the types of research activities comes from the Project Input Forms for FY92. For any particular research project, it was expected that those who filled out the forms could split the allocation of the budget activities among the seven categories rather than just having to characterize them as one form or another. As mentioned previously, these forms were filled out by personnel at the centers and reflects their judgement on how much of the research effort was devoted to various activities. In some cases, the center individual who filled out the forms did not show their estimates to the researchers themselves. When this was pointed out at my site visits to the centers, they were given the opportunity to redo any of their previous estimates. Only the Rutgers Center provided new estimates and they did a major revision which included moving "some of the communications, supplies and clerical dollars from dissemination and institutional activities." Susan Fuhrman, "Letter to Maris Vinovskis," (August 14, 1992). The figures used here are the revised estimates they have provided. Naturally, these are only crude estimates and need to be treated as such. Moreover, the definitions of each category may vary from one project to the next as well as from one center to another. Nevertheless, they may provide a rough and useful first approximation of the distribution of research activities in the centers.

Policy Research in Education, not surprisingly, devotes 38.0 percent of its research effort to policy analysis while the Berkeley Center for the Study of Writing and Literacy classifies 76.5 percent of its research work as applied.

Insert figure 4

Interestingly, there is very little effort devoted to basic research (see figures 4 and 5). Among the five centers, only 18.7 percent of their research is basic--ranging from 4.0 percent at the UCLA Center to 37.7 percent at the Rutgers Center. While the distinction between basic and applied research, for example, is not always clear cut, there does not appear to be much doubt that these centers do not provide much basic research--a criticism which was made in the recent National Academy study of OERI.[60] Of the $8.5 million in total funds allocated to these five centers, $841,103 of it went for basic research.[61] While one might argue that basic research is better done in settings (such as field-initiated

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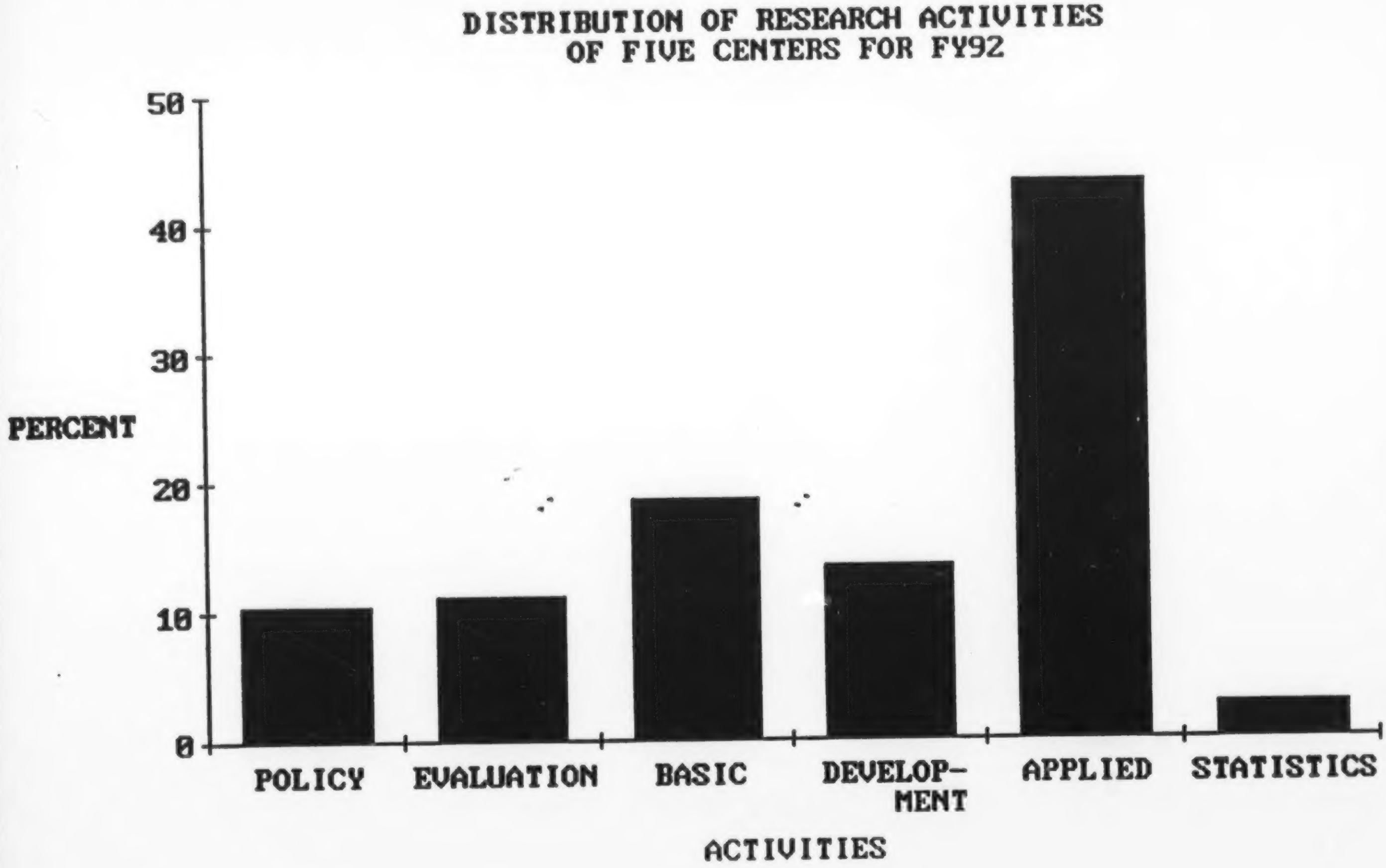
[60] Atkinson and Jackson, eds, Research and Education Reform.

[61] The definition of what is "basic" research is not always clearly or consistently used by OERI and the centers. For example, the Rutgers Center initially categorized 8.3 percent of its projects as basic research; however, after consulting the principal investigators of the individual research projects as well as rethinking their answers to the PMIS forms, they categorized 37.7 percent of their projects as involving basic research (much of this change came from shifting activities from policy studies and evaluation to basic research). Given the volatility in describing projects, perhaps it may be useful for OERI and the centers to devote more attention to defining the PMIS more clearly and consistently.

FIGURE 4


DISTRIBUTION OF RESEARCH ACTIVITIES
OF FIVE CENTERS FOR FY92
50
40
30
20
10
0
PERCENT
POLICY
EVALUATION
BASIC
DEVELOP-
MENT
APPLIED
STATISTICS
ACTIVITIES

research) other than the centers, the fact that so much of OERI's research funds are allocated to the centers and labs means that relatively little basic research is currently being funded.[62]

Insert figure 5

It is also interesting to observe that development is relatively neglected at these five centers as well (see figure 4). Only 13.5 percent of their research dollars was expended on development--even though the formal title of the centers as "Research and Development Centers" suggests a higher priority for development than it appears to be receiving. The relative lack of attention to development in the centers is illustrated by the fact that recently some of the Office of Research (OR) staff were uncertain whether or not the word "Development" actually appears in the formal designations of the centers. Moreover, several individuals at the centers suggested that the word "development" should be dropped from the formal title since they did not feel

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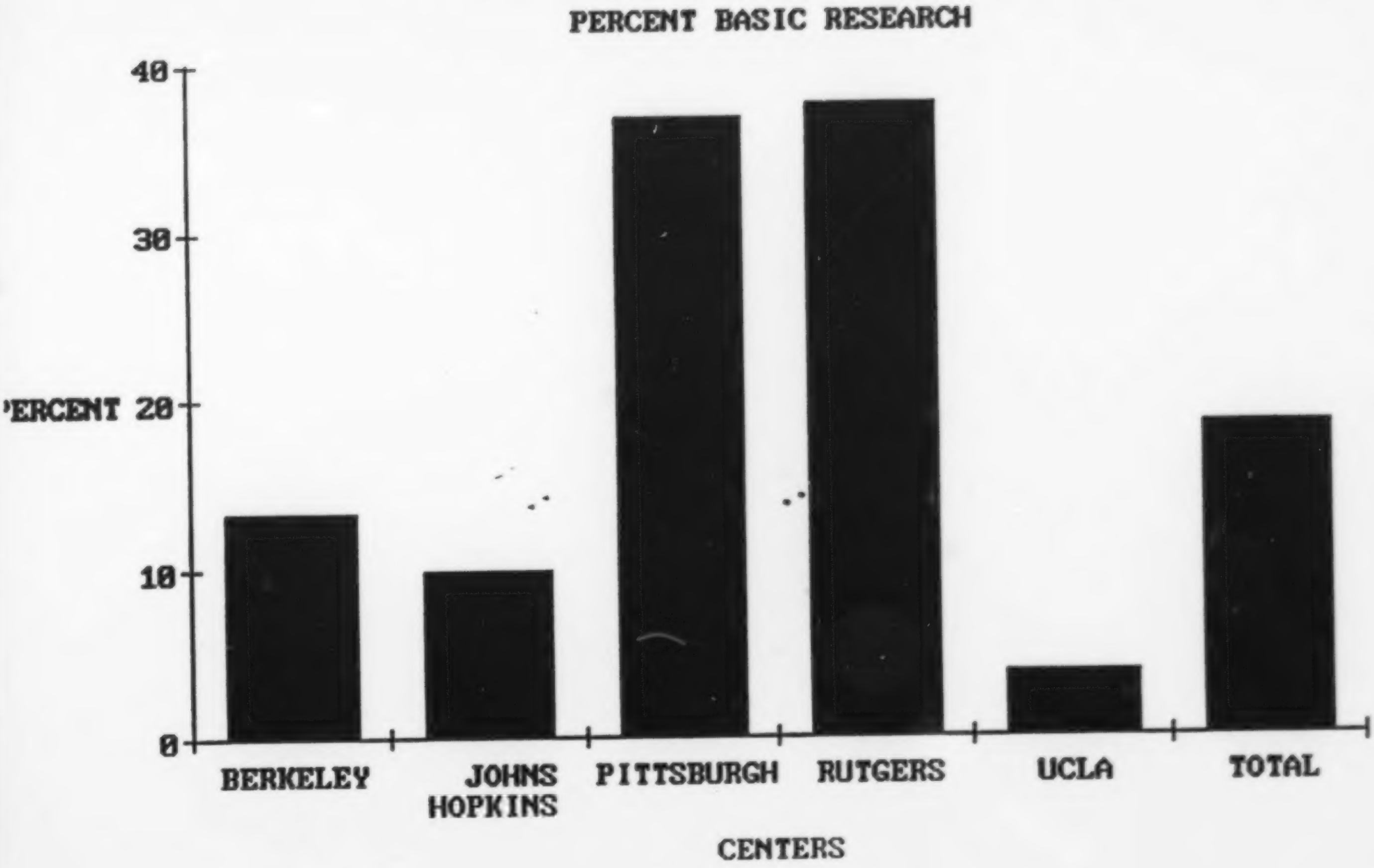
[62] The terms "basic" and "applied" research are not necessarily the best way to characterize the type of research done at the centers. Perhaps we should borrow from the Social Science Research Council (SSRC) the use of the phrase "mission-oriented basic research." They define mission-oriented research as "research in which practical concerns guide scientists' choice of topics. The research is conducted, however, in ways that do not necessarily yield immediate or directly foreseeable applications." David L. Featherman, "Mission-Oriented Basic Research," Items, Social Science Research Council, 45, 4 (December 1991), 75. Most of the work done at the centers under the rubric of basic research would be more accurately described as mission-oriented basic research since each of the centers has a clearly defined mission. Interestingly, the concept of mission-oriented research was employed by scholars in education in the early 1970s.

FIGURE 5


PERCENT BASIC RESEARCH
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BERKELEY
JOHNS HOPKINS
PITTSBURGH
RUTGERS
UCLA
TOTAL
CENTERS

that they were expected by OERI to place much priority in this area.[63]

But the concept and practice of development has not died out altogether at the centers. For example, the Johns Hopkins Center had previously developed cooperative learning as a teaching strategy and now employ it in their Success for All Program.[64] Similarly, the Pittsburgh Center has been developing its Math^3 Program (Making Mathematical Meaning) which draws upon their long-term, pioneering work in the area of cognition.[65]

The range of topics covered by the current centers is very large (see appendix B for a list of the centers). Indeed, one of the reasons given for expanding the number of centers was to be able to provide research on more issues than might have been done with fewer centers. Almost any imaginable educational issue or problem could be placed under one of the existing 23 centers.[66]

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[63] The decreasing importance of development in general at NIE/OERI is discussed in greater detail in the analysis of the quality of research and development at the OERI-funded regional educational laboratories.

[64] Stephen Balkcom, "Cooperative Learning," Education Research Consumer Guide, 1 (June 1992).

[65] While the Pittsburgh Center has done important and innovative basic research in the area of math and cognitive structures, it has taken the center more than a decade to move into the developmental phase of this undertaking. Perhaps we need to explore ways of speeding up the process from basic research to the development of more effective teaching practices.

[66] While almost anything might be investigated in one of the centers, in fact there are several implicit assumptions in the overall approaches of the centers. For example, most educational problems and topics are approached from a current perspective with relatively little attention to any historical considerations.

Ivor Pritchard, Director of the Education and Society Division in OR, argued that the proposed set of centers in 1990 were based upon a fragmented and incoherent view of educational development and needs:

> This research agenda is also fragmentary and diffused. This research agenda does not identify a coherent, compelling vision of education and what education research can contribute to its improvement. Despite the number of centers, the proposed missions do not cover the full range of standard education topics, and are not related to one another in any systematic way. If the centers could be connected to a coherent vision of education, the impression created by the number of centers would be modified by their place in a single framework. But there is no such framework evident in the proposed centers, which gives them a random, disorganized quality.[67]

Another characteristic of many of the centers is that they define and describe their research agendas very broadly, but in fact the actual research they produce is much more limited and focused. The disparity between the broad project titles and mission statements and the narrower research efforts is not unique to the centers; this is very common in the social sciences in general. Lacking in many of the center descriptions and discussions is a frank acknowledgement of the limited generalizations that one will be able to make on the basis of the specific research projects undertaken. It is important to note this distinction because anyone who just reads the project titles and broad project descriptions will over-estimate just how many of our educational problems are being effectively and systematically addressed by the research done in the centers.

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[67] Ivor Pritchard, "Memorandum to Milton Goldberg, Director, Office of Research," Office of Educational Research and Improvement (January 2, 1990).

If the amount of research done in these five relatively large centers seems limited, it is sometimes entirely missing in the smaller, three-year centers that were funded annually for about $500,000. For example, the National Center for Improving Science Education explicitly renounced doing any research in their successful grant application in 1987:

> The nation does not need yet another entity to conduct research on the processes of teaching and learning science, nor can such research be done adequately for the amount allocated to OERI's science content center. What is needed is an organization committed to assimilating the results of today's fervent activity, and creating bridges without which no coherent, integrated contribution will be made to science teaching and learning.[68]

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[68] Network, "A Proposal for a National Center for the Improvement of Science Teaching and Learning." Grant proposal submitted to OERI (July 10, 1987), abstract, p. 3.

Thus, while OERI believed that small centers should and could do useful original research, at least one of them candidly admitted that this was neither feasible nor desirable.

Although the center project titles and mission statements often seem to present a coherent and coordinated conception of their activities, in practice the projects sometimes appear to be more of a collection of loosely-related research undertakings. Some centers appear to lack a coherent and detailed research agenda as opposed to providing a broad framework and funding for the individual interests of the faculty. Although one can obviously value and appreciate the diversity of research activities supported by the centers, given the limited funding available perhaps a more focused approach might be more desirable.[69]

For some activities, there may be an implicit overarching theory or plan, but it often is not evident from the individual publications of a center.[70] Therefore, someone reading the products of a particular center without having access to their grant application or a personal discussion with one of the

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[69] Given the limited funding, the recent National Research Council study also questioned the wisdom of spreading the research activities of each center across several universities. Richard C. Atkinson and Gregg B. Jackson, eds., Research and Education Reform, p. 65.

[70] The various works on assessing history at the UCLA Center may seem somewhat disconnected and sporadic to the outside reader because the broader underlying research strategy for this area has not been explicitly stated. However, in my visit to the UCLA Center, that larger vision became more evident in talking with Eva Baker, one of the Center's co-directors. Moreover, in the subsequent continuation application, the UCLA Center clarified its overall themes and visions.

researchers might not see the coherence or relevance of the entire undertaking. Quite frequently there are also useful individual pieces of research that do not appear to be an integral part of an ongoing research strategy.[71] Moreover, in some centers one gets the impression that certain portions of the research are more part of an overall, ongoing systematic research effort than other segments.

Sometimes otherwise well-designed and thoughtful research projects are not followed up adequately to provide the needed information for educators and policy makers. The Rutgers Center studied differential treatment of school districts by states. They choose four states (Kentucky, New Jersey, South Carolina, and Washington) which were either taking over control of deficient school districts or easing the state education regulations for those that were exemplarary in their performance.[72]

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[71] The very interesting critical analysis of studies of cultural literacy by the UCLA Center appears to be more of an isolated project than part of their broader research strategy. In other words, after one reads the piece and asks what is the next logical follow-up to that study, one discovers that none has been planned.

[72] For an analysis of these four case studies as well as much more detailed information about each one of them, see Susan H. Fuhrman and Richard F. Elmore, "Takeover and Deregulation: Working Models of New State and Local Regulatory Relationships," Consortium for Policy Research in Education, RR-024 (April 1992); Patricia Fry, Susan H. Fuhrman, and Richard F. Elmore, "Kentucky's Program for Educationally Deficient School Districts: A Case Study," Consortium for Policy Research in Education, TC-005 (April 1992); Margaret Dolan, "State Takeover of a Local District in New Jersey: A Case Study," Consortium for Policy Research in Education, TC-008 (April 1992); Susan H. Fuhrman, Patricia Fry, and Richard F. Elmore, "South Carolina's Flexibility Through Deregulation Program: A Case Study," Consortium for Policy Research in Education, TC-007 (April 1992); Patricia Fry, Susan H. Fuhrman, and Richard F.

Unfortunately, they were not planning to follow up on the effects of these takeover actions on the school districts--thus denying themselves the opportunity to really assess the effects of these different state policies on education practices and outcomes.[73] Often there is even a lack of communication and coordination among individual researchers within a center.[74]

Elmore, "Schools for the 21st Century Program in Washington State: A Case Study," Consortium for Policy Research in Education, TC-006 (April 1992).

The reports of the four case studies themselves are basically descriptive and deliberately non-analytic. The justification for not providing more analysis within each of the case studies is that they are intended to be used for teaching purposes and the author(s) wants students to do their own analyses and draw their conclusions. Unfortunately, since the four case studies do not include more detailed information about the conflicting views of the participants in an appendix, the usefulness of these case studies for teaching purposes is limited. Moreover, the Rutgers Center had done a reanalysis of the data used by South Carolina to decide which schools to deregulate, but did not provide any of those data in the case study or even cite that report in that publication.

[73] Despite the absence of much information about the educational impact of the takeovers, the authors appear to draw some rather strong conclusions about the value of takeovers. Fuhrman and Elmore, "Takeover and Deregulation," pp. 27-28. Indeed, one can even find hints in the two case studies that they used of some positive, short-term educational benefits as a result of those takeovers. Fry, Fuhrman, and Elmore, "Kentucky's Program"; Dolan, "State Takeover of a Local District." Given their decision not to follow up the educational impact of these takeovers, perhaps the authors should have been more circumspect about their conclusions of the lack of any educational benefits due to the takeovers.

[74] For example, while the Pittsburgh Center has several projects that involve the analysis of teaching history, they are not coordinated amongst themselves. In part this is because the individual researchers are from different disciplines and only use history as a topic for their analyses. Given the sizable investment in history at the Pittsburgh Center, the activities of these individual researchers should be more coordinated so that they can build upon each others efforts whenever possible. Moreover, researchers should make more of an effort to involve

Given the large number of R&D centers funded and the broad mandate that each of them enjoys, it is not surprising that there is some overlap in their activities. The Berkeley, UCLA, and Pittsburgh Centers are evaluating the teaching of history in schools; UCLA and Berkeley are both assessing writing; and several centers are concerned with the diffusion and implementation of educational reforms at the state level. Although OERI continues to try to improve the communication among the centers, one has the impression that sometimes closely-related research projects in different centers have little interaction with each other.[75]

One of the first activities that a researcher undertakes in a new project is a synthesis and critical review of the existing scholarly literature in order to ascertain what needs to be done. In field-initiated grants this synthesis is usually done as part of the normal grant application process since such information is considered essential to convince the outside reviewers of the feasibility and desirability of any proposal. Many center grant applications, however, do not provide a thorough, critical review of the existing literature for their proposed research activities--

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disciplinary experts in their projects. Thus, the study of representations of the American Revolutionary era might have profited from the involvement of an academic expert on the American Revolution who would be more familiar with the recent scholarly work in this area. Isabel L. Beck, Margaret G. McKeown, and Gale M. Sinatra, "The Representations That Fifth Graders Develop About the American Revolutionary Period from Reading Social Studies Textbooks," Learning Research and Development Center, University of Pittsburgh (December 1989).

[75] There has been relatively little interaction and co-ordination, for example, between the history projects at Berkeley and UCLA.

perhaps in part because they sometimes unfortunately devote more energy to perfecting their mission statements and to describing broadly their research plans and dissemination activities rather than presenting a detailed research design. Moreover, the total page limit on applications discourages any lengthy literature reviews. Therefore, many of the center research projects undertake a synthesis of the existing literature as their initial task.

There is nothing wrong with synthesizing the existing literature. Indeed, as mentioned above, it is an essential step in the research process and needs to be done--especially as new perspectives are introduced and considered.[76] Yet sometimes the production of review essays of the existing literature appears to be a large, if not the major, part of a particular project rather than just a small, but useful portion of the entire research process. Moreover, centers sometimes delay developing and providing detailed research designs of some of their work while they await the syntheses of the existing research. As a result, the actual research in a given area may be significantly delayed in anticipation of these reviews. While most of these reviews are useful and helpful, some of them also seem to be only slight improvements or expansions of existing reviews of the literature. Consequently, many of the reviews of the literature are never published--perhaps because their utility to a broader audience is limited or because they duplicate previously published materials.

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[76] For a useful review of the value of synthesizing literature and the difficulties of implementing those findings in practice, see Naida C. Tushnet, "Synthesis and Translation: Will It Be Easier For Users To Discover Meaning, Truth, and Utility in Research?" Paper presented at the AERA Annual Meeting, San Francisco, April 1992.

Another problem with some of the centers is that they sometimes seem to be too eager to produce and distribute materials of limited interest and utility. The Berkeley Center, for example, has produced nearly 150 articles and essays in a seven-year period--some of which appear to be too preliminary to be of much use to others. Similarly, while the UCLA Center has generated some excellent papers, it has also printed a set of overheads from an assessment workshop that perhaps could have been more effectively and efficiently distributed as a xerox copy rather than as part of their official deliverables.[77] As a result, not only are scarce resources for dissemination being expended on materials of limited utility, but the unevenness of the quality of center products does not do much to enhance the reputation of the institutions involved and raises questions about their publication standards and review process.

C. Quality of Research

As mentioned earlier, there has been considerable discussion, but almost no analysis, of the quality of research produced by the centers. Based upon a fairly extensive and systematic reading of the materials produced at seven of the recent centers as well as a more cursory glance at some of the products from a few of the other centers, it appears that the quality of the research produced is mixed--both among centers and within centers. Some of the research produced is of very high social science quality while other work could be substantially improved and expanded.

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[77] Joan Herman, "High Quality Performance-Based Assessment," Center for the Study of Evaluation, Standards, and Student Testing (November 1991).

The National Center on Education and Employment is an example of a recently closed center that produced some high quality work.[78] For example, their study of youth training in the United States, Britain, and Australia was a sophisticated statistical analysis of several national longitudinal surveys of young men. They discovered, for example, that youth in the United States initially received less training upon entry into the labor force than in the other two countries, but that over time they catch up with their counterparts elsewhere. However, better-educated youth in the United States were much more likely to receive that additional training than others even though the more disadvantaged youth might have benefited the most from that assistance.[79]

Similarly, their series of works about the changing nature of the American economy and how it may impact on the skills needed by future workers was generally carefully and thoughtfully done. Some of the projects were extensive, critical reviews of the literature on schools and jobs while others were technical analyses of the relationship between education and the economy.[80] One of the strengths of the center was its ability to attract distinguished and accomplished economists and persuade them to turn their attention and analytic skills to the issues of schooling and the economy.[81]

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[78] The Center commissioned me to do a paper on the economy and education in nineteenth-century American and invited me to attend a national conference they sponsored. Maris A. Vinovskis, "The Role of Education in the Economic Transformation of Nineteenth Century America." National Center on Education and Employment, Conference Paper No. 9 (December 1989). While my temporary and rather minor involvement in their efforts could potentially introduce a bias in my reading of the rest of their work, I have tried to remain as objective as possible and have used the same standards for assessment as I have applied to the work from other centers.

[79] Hong Tan, Bruce Chapman, Christine Peterson, and Alison Booth, Youth Training in the United States, Britain, and Australia (Santa Monica, CA: RAND, 1991).

The Center for Research on Effective Schooling for Disadvantaged Students at Johns Hopkins University is another example of an institution which has done some important and innovative research. Particularly impressive is their efforts in early education interventions to help at-risk children through their "Success for All" Program. By working closely with all students in their first years in school, the "Success for All"

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[80] Gary Natriello, "The Role of the School in Preparing Students for Work." Final Report to OERI (June 1987); Joseph Altonji, "Controlling for Personal Characteristics, School and Community Characteristics, and High School Curriculum in Estimating the Return to Education." National Center on Education and Employment, Technical Papers, No. 14 (July 1990).

[81] For example, Jacob Mincer did a series of studies for them. Jacob Mincer, "Human Capital Responses to Technological Change in the Labor Market." National Center on Education and Employment, Technical Papers, No. 9 (November 1989); Jacob Mincer, "Job Training, Wage Growth, and Labor Turnover." National Center on Education and Employment, Technical Papers, No. 19 (November 1990).

It is also interesting to observe that this Center initially experienced considerable difficulty in getting itself established and delivering its products on a timely basis. However, they were able to make significant improvements in their organization and activities and produce some first-rate reports.

Program is able to help most of these students who are enrolled in some of the more disadvantaged areas of the inner cities. Their research shows that a much higher percentage of the students enrolled at one of their programs are able to read than their counterparts in the control schools.[82] Interestingly, they found that intensive tutoring of students in the first grade, for example, may be more effective in preparing them to read than having been enrolled in a Head Start Program.[83]

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[82] While initially the "Success for All" program appears to have hoped that it would improve the reading skills of everyone, it now appears that a certain proportion of the most disadvantaged at-risk children still do not meet the minimal standards of success in school. As they put it, "Will Success for All ultimately bring all children to grade level reading? Given the program's commitment to avoiding retention and special education and to the fact that most Success for All Schools are in very disadvantaged neighborhoods, it seems unlikely that the program will truly ensure grade-level performance for every single child. However, the program does substantially reduce the number of children performing below level, and this effect is increasing with each successive year of implementation." Center for Research on Effective Schooling for Disadvantaged Students, "Research on Success for All," Unpublished manuscript, chapter 7 (1992), p. 23.

[83] Much has been written about the efficacy of Head Start, but most researchers now acknowledge that the results of most systematic evaluations of those programs are either inconclusive or problematic. Ron Haskins, "Beyond Metaphor: The Efficacy of Early Childhood Education," American Psychologist 44, 2 (February 1989): 274-82. Moreover, most of these evaluations have not taken into consideration whether the money expended on Head Start might be used more effectively for other educational efforts. Therefore, it is especially interesting that Robert Slavin and his colleagues found that among nine different interventions they examined, tutoring proved to be the most effective--even compared to participation in a Head Start program. Robert E. Slavin, Nancy L. Karweit, and Barbara A. Wasik, "Preventing Early School Failure: What Works?" Center for Research on Effective Schooling for Disadvantaged Students, Report No. 26 (November 1991). For a broader discussion of our changing attitudes toward early education, see Maris A. Vinovskis, "Early Childhood Education: Then and Now," Daedalus, 122, No. 1 (Winter 1993), 151-176.

Some of the centers have done important analyses of federal, state, and local policies. For example, the Rutgers University Center sponsored and assembled a very timely and useful collection of essays on systemic reform. The essays explore the theoretical and practical aspects of a more coherent reform strategy and present the differing views of education policy analysts. The work of the Rutgers University Center is being widely used by education policy makers in Washington, DC and this particular volume serves as a thoughtful, but complex introduction to the notion of systemic reform.[84] In general, the quality of the policy studies of the Rutgers University Center tends to be better than most of the comparable policy work at the regional educational laboratories.

These are only a few examples which are intended to demonstrate that many of the existing centers are doing first-rate social science research on education. Therefore, critics who claim that the quality of research produced by these centers is uniformly low and that their results are unsound and unreliable would do well to look more closely at the work of some of these centers.

If some centers and some projects within centers are doing important and scientifically sound research, others still have some room for improvement. Often centers which do first-rate work in one or more areas, are not equally capable in others. For example, the National Center on Student Learning at the University of Pittsburgh is certainly one of the stronger research centers funded by OERI. Their work on the acquisition and learning in mathematics is highly regarded and was well-received by the outside reviewers of their grant application in 1985 and 1990 as well as of their continuation grant application in 1987 and 1992. Yet several of these same reviewers questioned the quality and utility of the Center's work on aspects of social studies such as history. Indeed, as one reads through their publications and their continuing grant application in 1987, one is struck by how much more simplistic and descriptive some of the social studies research is than their mathematical work.

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[84] Susan H. Fuhrman, ed., Designing Coherent Education Policy (San Francisco: Jossey-Bass, 1993).

While some of the research done by the centers is sophisticated statistically, others raise questions about its methodological rigor. The Center for Research on Evaluation, Standards, and Student Testing at UCLA is doing very important and thoughtful work on duplex designs which permit the use of more complex testing samples while still yielding valid student-level scoring. As large-scale educational assessment grows in this country, the development and use of duplex sampling will permit a broader and more useful employment of test score results.[85]

On the other hand, some of the work being done at the centers is limited by the size of their sample and the types of statistical techniques employed. For example, the studies from the Center for the Study of Writing and Literacy at Berkeley often are based upon analyzing a single individual or just investigating a few students.[86] Moreover, the analytic techniques used in many of their studies tend to be based more on reporting their activities or using simple descriptive statistics rather than employing more sophisticated statistical procedures (in part, of course, due to limits imposed by their small sample sizes).[87] While there is sometimes merit in analyzing an individual or a small group of individuals closely, unfortunately such studies by themselves cannot answer the questions about how representative their findings are for other populations or settings.[88]

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[85] R. Darrell Bock, "Duplex Design: Giving Students a Stake in Educational Excellence." Center for the Study of Evaluation, Standards, and Student Testing, Final Report (July 1989).

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[86] Melanie Sperling and Sarah Warshauer Freedman, "A Good Girl Writes Like a Good Girl: Written Responses and Clues to the Teaching/Learning Process," Center for the Study of Writing and Literacy, No. 3 (May 1987); Anne Haas Dyson, "The Case of the Singing Scientist: A Performance Perspective on the 'Stages' of School Literacy," Center for the Study of Writing and Literacy, No. 53 (September 1991); Melanie Sperling, "Dialogues of Deliberation: Conversation in the Teacher-Student Writing Conference," Center for the Study of Writing and Literacy, No. 48 (May 1991).

[87] Lorraine Higgins, Linda Flower, and Joseph Petraglia, "Planning Together: The Role of Critical Reflection in Student Collaboration," Center for the Study of Writing and Literacy, No. 52 (September 1991); Anne Haas Dyson, "Unintended Helping in the Primary Grades: Writing in the Children's World," Center for the Study of Writing and Literacy, No. 2 (May 1987).

[88] Despite the statistical limitations inherent in much of their studies, the Berkeley Center's own summary of their five-year work and achievements does not provide the appropriate caution about their findings. Rather, their conclusions are presented in a much more definitive way despite the fact that many are based on such limited samples. Sarah Warshauer Freedman, "Final Report of the Center for the Study of Writing" (December 1990).

The use of case studies can be an important and invaluable component of an overall research strategy, but efforts should be made to develop findings which can be applied to other settings as well. For a discussion of the use of case studies, see Joe R. Feagin, Anthony M. Orum, and Gideon Sjoberg, eds., A Case for the Case Study (Chapel Hill, NC: University of North Carolina Press, 1991); Charles C. Ragin and Howard S. Becker, What is a Case?

Another problem with some of the studies done at the centers is that they are based on convenience samples rather than more representative ones. Thus, the UCLA Center, which has produced some of the more rigorous studies, analyzed the effects of tests on what teachers do in classrooms by analyzing a questionnaire filled out by 85 elementary and secondary school teachers who attended a teacher leadership institute. While the author admits that this investigation may not be representative because of the small sample size, she does not consider any potential bias that may have been introduced as a result of only looking at individuals who attended a teacher leadership conference and who volunteered to fill out the questionnaire.[89]

Similarly, often it is not clear whether new ideas or products are being tested on a representative group of teachers or only on a self-selected subset of those who have volunteered to participate in this particular activity. For instance, the Pittsburgh Center is disseminating and evaluating its Math^3 Program to 37 additional teachers. Unfortunately, rather than being able to assign the Math^3 Program randomly to teachers, they had to rely upon those who volunteered to participate in this rather intensive two-year

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Exploring the Foundations of Social Inquiry (Cambridge: Cambridge University Press, 1992).

[89] Joan Herman, "The Effects of Testing on Teaching and Literacy," Center for the Study of Evaluation, Standards, and Student Testing, Final Report (November 1990). The statistics employed in this study are not particularly sophisticated either--mainly just descriptive statistics and simple correlations. Moreover, although the final report mentions 17 tables, they have not been included in this report--thus making it more difficult for OERI or anyone else to analyze this work.

effort. Consequently, the findings from this evaluation will be limited by the fact that the results are based upon a special subset of teachers who choose to join this project.

One might also question the particular research design of some of the studies. A study of teacher attitudes about different teacher evaluation systems, for example, analyzes teachers in Florida and Wisconsin. The strategy for comparing the teachers, however, might have been improved. Florida teachers were selected from the Miami and Tampa areas. The Wisconsin teachers were from Madison and Green Bay--seemingly rather different communities than those in Florida (perhaps Milwaukee should have been chosen instead). Moreover, the Florida sample included both beginning and experienced teachers while the Wisconsin sample only had experienced teachers (again an unfortunate development since in the Tampa subsample they found significant and complex effects of teacher experience on the ratings). Given the complexity of the issues being addressed in this study, their small sample of only 48 teachers severely restricted the type of controls and statistical analyses that could be performed. Thus, this interesting and important study by the Rutgers Center could have been considerably strengthened through more attention to the initial research design.[90]

Even some of the more analytically rigorous projects have important methodological issues that warrant further attention. The "Success for All" program at the Johns Hopkins Center, which was discussed earlier, is certainly one of the more carefully designed and statistically rigorous efforts among the centers. The researchers at the Johns Hopkins Center examined the ability of their "Success for All" program to help young students in some of the more disadvantaged urban neighborhoods. One of the nice features of their work is the decision to select similar schools in the same type of neighborhoods as statistical controls. Moreover, in order to deal with any possible problems introduced in the schools due to pupils experiencing different rates of placement in special education programs, they matched students from the two institutions on the basis of their spring standardized test score in kindergarten.

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[90] Penelope L. Peterson and Michelle A. Comeaux, "Evaluating the Systems: Teachers' Perspectives on Teacher Evaluation," Educational Evaluation and Policy Analysis, 12, 1 (Spring 1990), 3-24.

Yet two potentially important statistical problems have yet to be fully resolved. First, one of the criteria of selecting a school for the study includes taking only those institutions where the administration and the teachers agree to participate by a secret ballot. Since the control schools do not require such a commitment, one suspects that the schools in the study may have a somewhat more dedicated administration and teaching staff than the control schools. Second, does the matching of the students from one school with those in another one on the basis of a standardized test score in kindergarten really provide an adequate control for any possible differences? To be sure, since students in the program schools as well as the control institutions come from the more disadvantaged neighborhoods, some of the potential range of differences are minimized. Yet, as several of the outside reviewers as well as the staff of the Office of Research (OR) have suggested, the criteria for matching may not be sufficient by itself to ensure that no errors were introduced into the study.[91]

Sometimes the studies do not provide sufficient details for the reader to assess and interpret the findings. In an analysis of history textbooks, for example, one does not know how many students were tested or what were their characteristics. Simple correlations are provided in the essay, but since we are not provided with information about the size of the sample it is impossible to know what are the strengths of those associations. Moreover, only in discussing this investigation with the authors does one discover that the study occurred in a Catholic school--a potentially important contextual factor which might have affected the results.[92]

Overall, the quality of research and development at the OERI-funded centers is uneven. As we have seen, some of the work exemplifies excellent social science analysis while some of it leaves considerable room for conceptual and methodological improvement. While no effort was made in this assessment to arrive at a precise distribution of the quality of the products produced by the seven centers in this study, it does appear that on the whole they are of a higher quality than comparable efforts at the five OERI-funded regional educational laboratories also investigated (though the research or development work from a particular lab such as Far West is as good or better than those from most of the centers).[93]

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[91] For an excellent discussion of the problems involved in doing quasi-experimental research for policy purposes, see Christopher H. Achen, The Statistical Analysis of Quasi-Experimental Experiments (Berkeley, CA: University of California Press, 1986).

[92] M. Ann Britt, Mara Georgi, and Charles A. Perfetti, "Learning from History Texts: Conceptual and Text Factors," Learning Research and Development Center, University of Pittsburgh (1992).

D. Center Review Process

As was already mentioned earlier in the report, at various periods in the history of NIE, the existing centers were simply renewed rather than having to face competition for continued funding. In 1985 all of the centers were recompeted and a number of them lost their funding to outside competitors. Analysts who investigated the process of the center competitions in 1985 as well as in 1990 concluded that it was based upon a fair and efficient peer review system.[94] Nothing I have seen suggests otherwise.[95] Indeed, it appears that in recent years the Office of Research (OR) has been so anxious to avoid any appearance of favoritism or bias that the center receiving the highest peer review ranking has always received the award--even when that meant that the recommendations of the OR staff people most directly involved in the process had to be ignored in the case of two closely ranked center proposals.[96]

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[93] For an analysis and discussion of the quality of research or development at the regional educational laboratories, see chapter 2.

[94] Chester Finn, "Strengths (and Weaknesses) of Peer Review," Educational Researcher (August/September 1986), 14-15; Laurie Garduque and David C. Berliner, "Beyond the Competition," Educational Researcher, 15, 6 (1986), 19-20; Hunter N. Moorman and Thomas G. Carroll, "Peer Review and NIE/OERI Competition for Regional Educational Laboratories and National R&D Centers," Educational Researcher (August/September 1986), 16-18; Gerald Sroufe, "Educational Enterprise Zones: The New National Research Centers," Educational Researcher, 20, 4 (1991), 24-29.

We have already seen how over time OERI has been increasing its emphasis on dissemination rather than research--a pattern reflected in the 1990 guidelines for center competition. For example, on the technical review form for outside evaluators of the R&D centers, only 20 points out of a possible 100 points were given to "technical soundness".[97] On the other hand, 15 points was for

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[95] There has been a recent complaint, by one of the unsuccessful former centers, that the winning proposal gained an unfair advantage by submitting a longer than allowed proposal. As that discussion is still underway, I cannot comment on it except to say that there does not appear to be any suggestion that the staff of the Office of Research (OR) deliberately favored one institution over another in this process.

[96] Staff input in the decision making process was excluded because they were not allowed to be part of the formal review panel. While this system may be good in that it almost leaves the entire decision in the hands of outside reviewers, it is bad because it may exclude entirely some of the more knowledgeable and experienced people in the field.

[97] Among the criteria for technical soundness was "(1) The applicant demonstrates a thorough knowledge of current research and development concepts, theories, and outcomes and relates these to the proposed activities and mission of the center; (2) the adequacy of the research design and methodologies to address the research questions posed; and (3) evidence that, where appropriate, the perspectives of a variety of disciplines are used." Office of Research, OERI, "Application for Grants Under the Educational Research and Development Center Program" (Washington, DC: U.S. Department of Education, 1990), p. 139.

"mission and strategy", 15 points for "institutional capacity," and 25 points for "plan of operation" (the latter criteria did not include anything about research, but did stress national leadership and dissemination). Indeed, in the 1990 grant application package, the 10 additional discretionary points available were all allocated to the Plan of Operation "to emphasize the importance of each Center's dissemination activities."[98] In other words, the reviewer's technical form did not provide that much incentive for or differentiation among proposals in terms of research design.

While applicants were encouraged to provide detailed research designs and reviewers often rewarded those that did, sometimes it appears that having a detailed design may not have been especially advantageous. In the competition for one particular center, it appears that the center which did not spell out its research in great detail for the entire five-year period may have in part benefited compared to the one that did. Moreover, in many of the center competitions some of the reviewers have provided an excellent, detailed critique of the research, but then it appears that the reviewer's scores do not fully reflect those comments. In other words, sometimes there is less variation in the scores assigned to the "technical soundness" section than one would have expected on the basis of the differences in the written comments.

One of the major differences between successful center project research proposals and successful field-initiated research proposals may be that the latter usually would have to provide a much more detailed research design than the former. Center research project proposals are often brief summary descriptions rather than detailed research plans. Some reviewers of center proposals have complained that it is difficult to evaluate their scientific validity and feasibility because of inadequate information about the specific research designs. Center project proposals often emphasize the strategy or goals of the research effort rather than the details about how they will be carried out. Field-initiated research proposals, on the other hand, usually are expected to provide short, critical reviews of the literature as well as detailed research plans. Moreover, because center research projects are put forth as a package rather than as individual components, in practice this means that some individual research projects are funded which would not have been acceptable by themselves.[99]

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[98] Office of Research, "Application for Grants," p. 138.

Another frequently mentioned criticism of the center review process is that the outside panels consist of both researchers and practitioners. No one is saying that the practitioners should be excluded entirely from the assessment of the center proposals. But some contend that researchers should first evaluate the technical quality of the proposals (since many of the practitioners may not have had sufficient social science training to properly judge the research design and methodology) and only then should the practitioners and policy makers play a role in the final selection. While this proposed two-tier process for selecting centers is certainly defensible and perhaps even the way to proceed, the mixing of researchers and practitioners on the review panels does not appear to have played a major role in the outcomes of the seven centers studied. There were relatively few differences between the researchers and the practitioners on how they scored the successful applications.[100] Perhaps part of the explanation for the relative lack of differences between research and practitioner reviewers is that so little weight is given to "technical soundness" that it minimizes the variation that could be introduced for the overall score on the basis of this item.

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[99] This comparison of successful center proposals to field-initiated research proposals is based upon my personal experiences in evaluating grant applications from other agencies such as NEH, NIH, and NSF. It is not based upon an analysis of the field-initiated proposals submitted to OERI.

The extent and the quality of review comments for both the initial center proposals and their continuation applications varied greatly. Some of the reviewers provided very thoughtful and constructive assessments while others do not appear to have devoted much time or energy to this activity. Since OERI does not pay reviewers even a modest honorarium for their efforts, it is not surprising that many of the responses are so limited. Moreover, the OERI center monitors report having great difficulty in persuading scholars and practitioners to participate in the review process. Perhaps a modest honorarium of $200 to $500 for participating in the review process would have a positive affect on both getting reviewers as well as encouraging them to provide more extensive and detailed critiques.

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[100] Naturally, a more thorough and proper examination of this question would entail looking at all applicants--not just the successful one. It is possible that the researchers and the practitioners differed on the unsuccessful applicants so that the only ones which won were those that were acceptable to both parties.

Although some reviewers of proposals and continuing applications do an excellent job overall, many (if not most) are rather deficient in discussing in any detail questions about the methodology, budget, or the staffing of the research proposals. In part this is due to the fact that many proposals do not provide detailed information about their research designs for the individual projects. As a result, center monitors as well as the centers themselves are denied the opportunity to find out potentially important, constructive information about these research projects. Perhaps the review forms might be slightly expanded or made more specific in these areas in order to elicit more useful and more detailed comments. Naturally, without bolstering the motivation of many of the reviewers through something like providing a modest honorarium, it is unlikely that any increase in the specificity or breadth of the questions will have much impact.

Finally, each of the centers is required to have its own evaluation process. Many of the centers distinguish between an overall advisory board and a separate process for evaluating center products (such as technical papers, publications, etc.). The Berkeley Center, for example, effectively uses its national advisory board to discuss broader research and dissemination issues, but their national board does not attempt to assess the statistical and technical aspects of each research project. The Johns Hopkins Center has a general review process for its publications, but it does not subject them to an indepth assessment of their scientific validity. Instead, the Johns Hopkins Center has scholars present their forthcoming work at one of the weekly seminars for critical feedback about their methodology and interpretations. Unfortunately, not all of the authors are able to have their work scrutinized at one of these sessions--especially those colleagues who are working as subcontractors at another university. Thus, while a few of the centers seem to have a very active and useful outside advisory and evaluation groups to help them with their research priorities and quality control, many others do not appear to use such mechanisms very effectively.

E. Center Monitoring

There is considerable variation in how the Office of Research (OR) staff monitor and interact with the centers. Each center has an OR center monitor assigned to it as well as usually someone who can function as a back-up. Each of the center monitors reports to one of four division leaders in OR (the Learning and Instruction Division [Anne Sweet]; the Schools and School Professionals Division [Hunter Moorman]; the Higher Education and Adult Learning Division [Clifford Adelman]; and the Education and Society Division [Ivor Pritchard]). In addition, there is a Director of Center Management and Operations [Ned Chalker] who has a small staff for assistance. Both the division heads and the Director of Center Management and Operations report to the Director of the Office of Research [Joseph Conaty].[101] At the present time, this arrangement is informal and the lines of authority and the division of responsibilities between the division heads and the Director of Center Management and Operations are not always clear--though in practice they seem to be able to work together quite harmoniously.

One of the problems in the current system of monitoring is that there may be some variation in how individual monitors handle or respond to a particular situation. While the division heads and the Director of Center Management and Operations try to co-ordinate the activities of the center monitors, in practice there is still room for some differences. The problems are compounded by the fact that some of the center monitors have only short-term appointments in OERI so that there is a need to recruit and train new monitors on a regular basis.[102] Under NIE a special, brief handbook for monitors was developed to assist them.[103] Similarly, Sally Kilgore, a former director of the Office of Research (OR) and others on the staff developed a handbook in 1988 which several of the current monitors found helpful when it was used five years ago.[104] Unfortunately, that handbook was allowed to become dated and obsolete over time so that today there is nothing comparable for new or continuing center monitors today.[105]

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[101] When this study began, Milton Goldberg was the Director of the Office of Research. He was replaced in July 1992 when he left OERI for another assignment.

[102] Sometimes there has been an excessive turnover in center monitors that has been detrimental both to the centers and OERI. For example, the former National Center on Education and Employment had five different center monitors in a 2 1/2 year period.

[103] Susan Gruskin, "Monitoring Manual," National Institute of Education (August 1975).

Part of the reason for the diversity of practices among center monitors is because the division heads and the monitors do not agree amongst themselves on the importance or the nature of this responsibility. Some division heads and center monitors, for example, see their relationship with the centers as a very active one that requires considerable time and effort. Other division heads and center monitors see the centers as just another set of grantees that do not need or deserve intense scrutiny and involvement. Moreover, there appears to be some differences among the recent Assistant Secretaries of Education on just how involved centers monitors should be or the types of activities that they should perform. For example, while some staff have seen themselves as liaisons to the centers, Diane Ravitch, the recent former Assistant Secretary, prefers to see them as center monitors.

Center monitors also vary considerably in terms of their training and orientation. While a few center monitors have only had some college education, others have received a Ph.D. or E.D. degree. Some have had extensive personal experience in conducting or supervising research while others have had relatively little previous exposure to research. Similarly, while the training and experiences of some monitors fits very nicely with the subject matter of their center, others are working in areas that are far removed from their previous expertise or interests. A few center monitors are so deeply involved and knowledgeable about the content of their center's activities that they have even co-authored work with the personnel of that institution.[106] But some centers complain the OR center monitors are not familiar about their center's work or knowledgeable enough about academic research to be of much assistance.

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[104] Elizabeth Ashburn et al., "A Handbook for OR Center Liaisons," Office of Research (August 1988).

[105] Even at the time when Sally Kilgore tried have center monitors use the handbook, one of the division heads simply refused to comply and told the monitors reporting to him to ignore the manual.

There is also considerable variation in how much monitors consider and discuss the research design and methodology employed in the center's individual research projects. Some monitors devote relatively little time or effort to look at these issues while others are very deeply involved in such discourse. For example, the monitor for Johns Hopkins Center raised questions about the issue of matched sampling for the "Success for All" program and tried unsuccessfully to persuade the researchers there to be more concerned about this issue. Similarly, the monitor for the Berkeley Center questioned various aspects of the research design and strategy for that institution.

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[106] Judith Segal, for example, has co-edited several books with scholars at the center that she monitors. Judith W. Segal, Susan F. Chipman, and Robert Glaser, eds., Thinking and Learning Skills: Relating Instruction to Research (Hillsdale, NJ: Lawrence Erlbaum, 1985); Susan F. Chipman, Judith Segal, and Robert Glaser, eds., Thinking and Learning Skills: Research and Open Questions (Hillsdale, NJ: Lawrence Erlbaum, 1985); James F. Voss, David N. Perkins, and Judith W. Segal, eds., Informal Reasoning and Education (Hillsdale, NJ: Lawrence Erlbaum, 1991). Of course, while the close intellectual involvement of a monitor with their center is to be welcomed and fostered, someone might object that it diminishes from the possibility of that monitor maintaining an independent and objective perspective. While such a concern is legitimate, such dangers in practice are probably far outweighed by concerns about not having a center monitor who is intimately familiar with the subject and methodological issues involved.

One major problem for center monitors is that they often do not have sufficient travel funds to visit their centers or to bring with them, if necessary, the type of experts necessary to evaluate the research being produced by their center.[107] Under NIE in the 1970s, for example, center monitors sometimes were able to assemble teams of experts to go with them on their center visits. As OERI becomes more concerned about improving the quality of the research being done by the centers as well as assisting them with their other activities, it may be useful to provide more funding for travel and consultants.

Finally, some of the monitors pay close attention to the budget from a programmatic perspective, but others do not. Those who are interested in looking closely at the budget information, especially from a comparative perspective, are handicapped by the fact that the results from the computerized Project Management Information System (PMIS) do not provide the necessary information.

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[107] Indeed, since most center monitors are only allowed one annual trip either to their center or to a professional conference, some monitors choose to attend the annual conference and meet with the center director there. Center monitors should not be placed into this unfortunate trade-off. Travel funds should be available for their center monitoring activities at the site as well as for an opportunity to attend an appropriate professional meeting to further their own education and training.

Moreover, sometimes the appropriate research activities information from the Project Input Forms which would be necessary for a more indepth budget analysis were sent to OERI, but not passed on to the appropriate monitors.[108] In general, one gets the impression that the analysis of the individual project research budgets and staffs have not received as much attention from either center monitors or outside reviewers.

In 1987 the Office of Research (OR) undertook a third-year review of the centers. The control and direction of those reviews was placed in the hands of the individual monitors so that the quality of those efforts varied considerably from center to center. Overall, the reviews for the centers investigated for this study appear to have dealt only marginally with the quality of the research and development produced by those institutions.

The third-year review for 17 of the centers in 1992 overall was much more rigorous and systematic. The outside reviewers and center monitors were specifically asked to comment upon the quality of the work produced by the centers during their first two years and the results of this review were scrutinized both by the Office of Research and the Office of the Assistant Secretary.[109]

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[108] Keith Stubbs and Ella Jones are now heading up an OERI task force to review and revise the use of the PMIS system.

[109] There was considerable debate within OR and OERI on how much attention should be paid to the quality of the research and development produced by the centers. Initially, the third-year review plans did not call for a careful assessment of the quality of the center work, but the final instructions to the outside and inside reviewers specifically asked them to address the quality issue.

One source of uncertainty among some of the staff in OR is over how much legal authority center monitors have to make changes in the grants. Some have said that since the funds are grants rather than contracts, OR cannot insist on major changes or deletions of entire projects--though the center monitors have often persuaded the centers that changes or a redirection of funding are warranted and prudent. Others believe that monitors have the legal authority to terminate any specific project that is deemed inadequate--though usually this would be in the context of redirecting those monies to other projects within the same center. In any case, it does not appear that until last year OR has terminated the funding for a specific project within a center and then decreased the overall funding level for that center.

The Department of Education grant regulations state that "[t]he Secretary may make a continuation award for a budget period after the first budget period of an approved multi-year project if: ... (4) Continuation of the project is in the best interest of the Federal Government."[110] In other words, if OR decides, for example, that ultimately one of the projects in a center is inadequate from a research perspective or unnecessary from a government perspective, it can terminate that project and reassign the money to other activities within that center or transfer the funds to other centers.[111]

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[110] U.S. Department of Education, Education Department General Administrative Regulations (EDGAR): 34 CFR Parts 74, 75, 76, 77, 79, 80, 81, 82, 85, and 86, Revised July 8, 1992 (Washington, DC: U.S. Government Printing Office, 1992), paragraph 75.253.

In the 1970s, NIE occasionally did remove funds from a particular center project or projects and then use them for some other purposes. But in more recent years OR has not followed that same practice--perhaps in part because some of the monitors as well as some of the leadership in OERI was not aware that this could be done. In the third-year review of the centers, however, a specific center project was defunded and the monies were used for other center expenditures.[112] The defunding of specific center projects which are deemed by center monitors and reviewers as unworthy and unsalvageable should be pursued as a last resort, at least on a limited basis, because it sends a clear message to everyone that OR is only willing to fund those projects which are of demonstrable quality and "in the best interest of the Federal Government."

There is another major problem with the relationship between the centers and the Office of Research (OR). The research produced by the centers is transmitted to the monitors in OR, but there is no real effort made to incorporate and use their findings in the Office of Educational Research and Improvement (OERI). Basically, up until very recently, few individuals within OR have been able to do any serious original research or to synthesize existing studies. Moreover, the lack of subject matter specialists in OR like someone in early childhood education have made it difficult for the Office of Research to interact intellectually with many of the centers.

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[111] Since the Congress has specified the total minimum amount of money to be spent on the centers as a line-item, the surplus funds cannot be transferred to some other non-center activity at OERI (unless the total amount allocated to the centers by OERI had exceeded the minimum set by Congress).

[112] Similarly, over $200,000 of another center's funding was withheld until it provided a much more detailed and developed research design for one of its projects.

The lack of research personnel and activity within the Office of Research seriously weakens that group's ability to monitor and interact substantively with the centers. In recent years this situation has become worse as personnel have been shifted from OR to other tasks within OERI. The number of full-time equivalent (FTE) employees in the Office of Research decreased from 68 in FY87 to 58 in FY91--a fifteen percent decrease. As a result, the ability of OR staff to do original analyses or to synthesize the research findings from the centers has decreased at the same time that the total number of centers funded by OR has increased.

Diane Ravitch, the recent former Assistant Secretary, agreed that the Office of Research has been under-staffed and she authorized in late 1992 the addition of four more researchers to the staff. It was envisioned that the new staff members would be part of a separate unit within OR which would specialize in synthesizing existing research as well as undertaking their own investigations. As Ravitch's tenure in office was terminated by the change in administrations, her proposed expansion of OR has been placed on hold.

III. Conclusion

The R&D centers were initially created as large, national research institutions to develop an ongoing and cumulative program of education research on some vital problem area. While that need continues to exist, the size and nature of most centers has changed dramatically so that it will be necessary to make some major changes in our current center system in order to meet those initial expectations.

Most of the initial R&D centers in the early 1970s were $2-$4 million operations (in constant 1982-84 dollars) and many of the previous analyses of these institutions recommended that they should be even larger. Today, the average size of the R&D centers is only about three-quarters of a million dollars (in constant 1982-84 dollars) and they cannot be considered truly "national" research centers in the original meaning of that word. Instead, most of them are small research institutions (or coalitions of small research institutions) which do not have the national presence or impact that was initially envisioned. If the R&D centers are to fulfill their functions of supporting sustained and cumulative research on a national scale, they will have to be much larger--perhaps in the range of $6 to $8 million (current dollars).

The total amount of money in constant dollars allocated to R&D centers has declined substantially from a high of $27.1 million in FY74 to $15.6 million in FY91 (in constant 1982-84 dollars)--a 42.4 percent decrease. The recent National Academy of Science Report is correct in recommending that there should be a sizable increase in total center funding over the next few years (they recommended approximately doubling the total R&D center budget).

But the R&D centers are only one component of the overall research portfolio of the Office of Educational Research and Improvement (OERI). Equally important are mission-oriented basic research or field-initiated studies. If the U.S. Congress does not substantially increase the funding for these other activities, it may be advisable to redirect some of the other funds within OERI for those purposes. Therefore, if there is no increased funding for mission-oriented basic research or field-initiated research, regrettably it may be prudent to redirect perhaps 10-15 percent of the current center funding for these activities (this would require congressional approval).[113]

More of the current budget of the centers needs to be directed toward research. The fact that only approximately half of the funds allocated to the five centers studied went directly to research projects is troublesome. The federal government needs to reconsider the indirect cost rates of colleges and universities to make sure that they include only the real costs of providing services for conducting research in education at the centers. More attention needs to be paid to the administrative costs of the centers charged to the OERI grant. Centers whose universities charge a relatively high indirect cost presumably will not need as much additional help from OERI for administrative expenses. In order to interact more thoughtfully with center budgetary matters, it will be necessary to expand and improve the output from the current PMIS system. The computerized output provided by the present PMIS system has not been of much interest or help to the center monitors or other program analysts within OERI.

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[113] The same percentage of money should be redirected to the field-initiated or mission-oriented basic research from OERI's funding of the regional educational laboratories.

The cost of disseminating information from the centers may need reconsideration. There is no question that the dissemination of information about the findings from center research projects is an important and necessary activity. In the present situation of mostly small R&D centers, however, sometimes the costs of dissemination in a particular center are too high relative to the expense of doing the research itself so that one wonders if the proper balance has been found. In an extreme case, one of the centers spends more money on collaboration and dissemination than it does on research. If the centers become larger, then the seemingly direct trade-off between dissemination and research will not be as problematic. In any case, centers should also work much more closely with other institutions, such as the laboratories, in order to reach a broader audience in a more efficient and cost-effective manner. Indeed, it was rather disappointing to discover how little co-ordination and co-operation exists between most centers and labs today.

Another problem with the current distribution of research activities within the centers is the relative lack of basic research. As the recent National Academy of Science Report pointed out, very little basic research is being done in OERI and as this analysis has confirmed, very little basic research is being done at the centers. This is unfortunate because so much of OERI's very limited research funds are expended through the centers and labs. While more basic research can and should be expanded through field-initiated research and other more focused research grants, the centers should expand their relative commitment of time and money to basic research--especially since the work of the centers is supposed to be more sustained and cumulative than ordinary research grants anyway. Therefore, mission-oriented basic research should be expanded within the centers.[114]

If one of the major rationales for the centers is the need for co-ordinated and cumulative research strategies, then they should strive to accomplish this goal. At the present time, many of the projects within the centers could not be justified on these basis. Given the current small overall size of the centers, the decision to put together a loose coalition of colleges and universities may not always be wise as it often leads in practice to further fragmentation. If the centers were to increase in size, then the idea of bringing together different institutions might become more attractive as each one would receive more funding and as there might be more monies for travel and co-ordination.[115]

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[114] Some have suggested that as there are fewer and larger centers, the centers themselves should hold the mission-oriented basic research competitions for individual scholars. Perhaps. But it may be more effective and efficient to have the Office of Research hold those grant competitions than the centers. This important issue should be analyzed further before any decision is made. Part of the answer to this question will depend on how the congressionally proposed institutes or directorates are organized and run.

If spreading the center among several different universities often may be problematic, so too is the almost universal practice of having many small research projects. Despite the small size of the current centers, almost all of them have decided to fund 10-35 research projects. As a result, almost by definition most of these research projects are small and limited efforts which make it difficult, if not almost impossible, to provide the type of large-scale and long-term sustained research analyses initially envisioned by the creators of these institutions.

With some notable exceptions, many of the center activities are more a series of interesting and often well-done individual research projects rather than part of a closely co-ordinated, ongoing research strategy. Sometimes there is considerable overlap among the centers in their research projects and orientations--too often without any close co-ordination among them. Even those projects which are part of a broader research strategy sometimes appear isolated and unrelated to outsiders who do not have direct access to the researchers or their unpublished proposals to OERI. In short, if the centers are to be continued because of the need for sustained and cumulative research, then they must organize themselves in such a manner as to be able to deliver it--otherwise they may be simply perceived as expensive and privileged institutions for catering to the particular individual research interests of their faculty members.

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[115] While several of the centers which are composed of coalitions of colleges and universities were not particularly effective or useful, some were more functional. For example, the Rutgers Center made effective use of faculty at different colleges and universities.

While everyone agrees that center grants should be competitive, there is considerable disagreement over how frequently the existing centers should be recompeted. At the present time, all centers face a new round of competition every five years. The recent National Academy of Science Report, however, suggests that center grants should be made for 10 to 15 years--conditional, of course, upon satisfactory annual progress.

As desirable as it may be to have more long-term centers, it is probably wise to continue to recompete them every five years. The frequent competition provides additional incentives for existing centers to maintain their research quality and provides more opportunities to redirect the research focus of portions of the center system if that should ever become necessary.

Perhaps one way of combining the desire for more stability with the emphasis on the need for quality is to allow center recompetitions to take into consideration the prior work of the incumbent center. Centers which have done first-rate research would gain some advantage in the recompetition because of their existing track record. This might not necessarily be undesirable from a government perspective because centers are supposed to develop ongoing cumulative education research. On the other hand, incumbent centers whose research has been conceptually and methodologically flawed would be disadvantaged--again not an undesirable outcome. Taking into consideration an incumbent's past performance could play an important role in both enhancing the overall quality of center research as well as providing more stability for those institutions which produce high quality and useful work.[116]

Another way to enhance the long-term impact of the centers is to require that OERI funded data produced at those institutions be made available to other scholars and analysts within a relatively short time-period (perhaps one year after the data has been gathered and first analyzed). The National Science Foundation already requires all of its grantees to provide public use computer tapes/disks and OERI should adopt their policy. Naturally, the confidentiality of the research subjects must be protected and specific funds should be set aside in the center budgets for the cost of preparing a public use computer tape/disk.[117]

The overall quality of the research produced by the centers is mixed. On the one hand, some of the projects within centers have produced excellent social science research. Their investigations are well-designed and their studies employ sophisticated research techniques ranging from insightful ethnographic analyses to rigorous statistical methods. On the other hand, some of the research projects are so conceptually and methodologically weak that they either should have never been funded or should have been promptly improved after being funded. While there is considerable variation among the centers in the quality of their work, there is also a surprisingly large variation in the quality of work within many centers. Even at some of the best R&D centers there are research projects which probably would not have been funded if they would have had to compete openly by themselves for scarce federal research dollars.

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[116] Taking into account an incumbent center's previous work is certainly permissible under existing U.S. Department of Education regulations. In describing how the Secretary selects applications for new grants, the regulations state: "(3) any other information relevant to a criterion, priority, or other requirement that applies to the selection of applications for new grants, including information concerning the applicant's use of funds under a previous award under the same Federal program." U.S. Department of Education, EDGAR, paragraph 75.217.

[117] OR has created a task force to look into the matter of centers providing public use data tapes. OR has already moved to obtain such data from the Johns Hopkins Center which is now entering its final year of OERI funding.

It is evident that first-rate educational research has been and can be produced through a system of R&D centers. It is also clear that insufficient attention has been paid by the Office of Research (OR) to ways of improving the overall quality of research from the centers--though individual center monitors often have worked very hard to help maintain high research standards at their centers. There are a number of steps which might be taken to enhance the quality of the research produced by the centers.[118]

More attention needs to be paid to the research design in the original grants. In 1985 and 1990 only 20 percent of an applicants overall score depended upon their research design--a much too low percentage for centers which are explicitly designed for research and development purposes. Applicants for center grants must be explicitly and forcefully reminded to present more specific and detailed research plans for each of their projects (even if this means allowing a few more pages for each individual project description in the application). If the panel of reviewers feels that any particular project of the winning application is so weak conceptually or methodologically (or so unclear because they have not been given sufficient information), they either should delete it immediately from the approved package or clearly indicate that the project must be improved quickly. Once applicants for center grants realize that their individual research projects might be entirely eliminated if their proposals are not conceptually and methodologically sound and clearly presented, perhaps the overall quality of the successful applications will be improved.

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[118] Starting with the third-year review of the 17 centers in 1992, OR now has initiated a series of efforts to monitor and improve the quality of the research and development produced by the centers. These recent activities by OR are unique historically and the office should be commended for its initiatives in this area.

It is essential to obtain good reviewers for both the initial grant review panel as well as for those participating in the third-year continuation review. Highly qualified researchers should play a prominent, though not exclusive, role in these deliberations. Whether the review system becomes a two-tiered process (with practitioners or policy makers and researchers separated) may be less important than whether the panel(s) are able and willing to discuss thoroughly the research designs of each project. One of the problems, however, of including practitioners, policy makers, and researchers on the same panel is that there may not be enough positions for covering the broad array of substantive issues being raised--especially if the centers become much larger in scope and function. In order to recruit highly qualified reviewers and persuade them to devote the amount of attention suggested here, a modest honorarium should be provided.[119] Given the sizable public investment in each of these centers, it is wasteful and inefficient to maintain a review process that cannot ensure a high degree of scrutiny of the soundness of the proposed research in these centers.

Center monitors as a group need to devote more attention to the research quality of the products from their centers. This means that center monitors either should be personally competent to assess the quality of the research or able to seek assistance from colleagues within the Office of Research (OR). Just as center monitors now may receive technical training in how to handle grants and contracts or how to use computers, they should also have the opportunity to receive some training in research design and statistical analysis. This is particularly important in OR because some of the staff have risen through the ranks without ever having had the type of methodological training that they may need in the current positions.[120] More efforts also have to be made to

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[119] OERI has just changed its policies in regard to paying reviewers. If funding permits, OERI now will try to pay reviewers an honorarium of $100 per day--a practice consistent with the Department's current practices. Dick Hayes, "Memo to Program Directors," Office of Educational Research and Improvement (May 20, 1993).

[120] Some of this training is now being provided to OERI staff by the National Center for Education Statistics (NCES). The new NCES social science training program is an important step forward in this area for all of OERI.

In addition to the offerings by NCES, the Horace Mann Learning Center for the U.S. Department of Education also should provide standardize some of the routine center monitoring practices in OR; the development and annual updating of an OR handbook for center monitors would be a step in the right direction.[121]

Travel money should be made available for center monitors to visit their sites on appropriate occasions. Center monitors should not be forced to decide between attending one professional meeting each year or visiting their center as the current policy dictates. Moreover, funds should be available occasionally to bring in outside consultants to visit a particular center for a more indepth assessment of its strengths and weaknesses.

Center monitors should be encouraged to continue working closely with their centers to improve the quality of research. Better individual project forms for obtaining more detailed information about research design and methodology need to be developed and employed--perhaps along the lines of those now being created for the TORUS System. Conceptually and methodologically weak projects should be improved or the funds allocated for them redirected to other center projects. In some cases it may be

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more social science training opportunities for federal employees. At the present time the Horace Mann Learning Center concentrates on computer training and technical assistance for grant and contract management. It also sponsors some other more controversial activities such as an image impact seminar to "help participants to understand the importance of projecting the right image in business through appearance, attitude and body language." U.S. Department of Education, Training Announcement, "Image Impact Seminar," Horace Mann Learning Center, Announcement No. 92-125 (December 22, 1992). Unfortunately, since the image impact seminar is explicitly targeted only for clerical/secretarial employees, it may raise some questions about occupational stereotyping.

[121] OR is now in the process of developing a new handbook for center monitors.

necessary and desirable to eliminate a particular center project entirely and then reduce the overall funding of that center accordingly. Any surplus funds accumulated from research projects eliminated from a particular center might then be reallocated to other worthy research projects at other centers.

The Office of Research (OR) needs to conduct its own research as well as to synthesize the research findings from the centers. At the present time, the staff of the OR are not given sufficient time to produce or synthesize research. Part of this inattention to research within OR is due to a general de-emphasis on the importance of research within OERI until very recently and part is due to past decisions to reduce the overall staff size of OR (fortunately the current plans call for an expansion of OR analytic staff). At the present time there is a serious shortage of qualified analysts within OR who are able to address the various substantive topics pursued at the existing centers. Therefore, additional high quality researchers in OR who have expertise both in substantive and methodological areas should identified and hired. If the work produced by the centers is expected to provide a sustained and cumulative body of educational research, then the research staff within OR will substantially have to be expanded in numbers and upgraded in quality.

While there has been some discussion and consideration at OR of the role of research at the centers, very little, if any, attention has been paid to the issue of development--despite the fact that this word is prominently highlighted in the formal designations of the centers. The relative lack of developmental work in OERI in general is a serious problem for the agency and one that needs to be investigated and remedied. Whether that development should be done by the centers, labs, or some combination of these and other institutions remains to be explored. In any case, the Office of Research (OR) should carefully reconsider the place of development in the functions of the centers and either drop that word from the title and descriptions of the centers or deal with this issue more seriously in practice. At the present time, it appears that many, if not most centers, do not pursue their developmental responsibilities very diligently.

Chapter 2

ANALYSIS OF THE QUALITY OF RESEARCH AND DEVELOPMENT AT THE OERI REGIONAL EDUCATIONAL LABORATORIES

In the previous chapter we discussed the research and development (R&D) centers of the Office of Educational Research and Development (OERI)--one of the major areas of research expenditures by that agency. Now we will turn to an investigation of the types and quality of research and development at the regional educational laboratories, the other major OERI-funded institution created just two years after the R&D centers were established. From 1966 through 1991, approximately $811 million (in constant 1982-84 dollars) have been expended on these labs--about 30 percent more than spent on the R&D centers from 1964 through 1991.[1] Similar to the situation with the R&D centers, the characteristics and quality of the research and development produced at the labs have not been systematically investigated.

This study will analyze the nature and quality of research and development produced by the labs since 1985. Compared to the earlier study of research and development at the R&D centers, this undertaking is more complicated because the mission of the labs has not always been as directly or explicitly focused on research and development. Therefore considerable care and attention will be paid to the varying definitions of what constitutes research and development activities at these institutions as well as to assessing the quality of their work. Again, there will be some need to look at the changing overall trends in lab budgets and to examine the relative amounts expended on research and development. Since the focus of this inquiry is an assessment of the quality of research and development produced at the labs rather than their impact on schools or the role of the labs in providing technical assistance to states and local communities, this analysis should not be seen as a comprehensive investigation of the overall functioning of the labs.

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[1] The information on lab funding is based upon data from a variety of different documents gathered at OERI. While there are a few minor discrepancies in the various annual estimates of lab expenditures, the overall level as well as trend should be reasonably accurate. The cost of living information is from the U.S. Department of Commerce index of consumer prices.

The study begins with an analysis of the creation of the labs in 1966 and their subsequent development. Because there were so many major changes in the focus and direction of the labs, the historical analysis will be examined in considerable depth. Readers only interested in the current functioning of the labs rather than their origins or historical development might want to skip this section and go directly to the analysis of the quality of research and development work at five of the current labs. Then the relationship between the labs and the staff at OERI will be considered in an effort to make some suggestions about how to improve the quality of research at those institutions.

I. Historical Development of the Labs

In the previous chapter, we described the growing role of the federal government in the support of educational research in the late-1950s and early-1960s and the frustration over the fact that much of that initial research was piecemeal and fragmentary. The R&D centers first were established in 1964 as part of a concerted effort to develop sustained and cumulative educational research and the centers were reauthorized under Title IV of the Elementary and Secondary Education Act (ESEA) of 1965.

President Lyndon Johnson created in 1964 a number of task forces to consider what actions the federal government should take in different areas. The task force on education was headed by John Gardner and it played a key role in the establishment and operation of the educational laboratories. Whereas the Gardner Task Force virtually ignored the role of the newly created R&D centers, it made the creation of the educational laboratories one of the centerpieces of its recommendations for bold new ways of improving learning. Moreover, in its relatively extensive discussion of the laboratories, it set forth a particular vision of those institutions which provides some of the most detailed information about the original intent of the lab founders.[2]

The Gardner Task Force, in language almost identical to some of the current rhetoric of reform, called for "a massive burst of innovation." Since they saw educational development as ever changing, they called for "a system designed for continuous renewal, a system in which reappraisal and innovation are built in. That is why references to research and development, to innovation and experiment, appear in every chapter of this report."[3]

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[2] For a useful analysis of the Gardner Task Force, see Charles Philip Kearney, "The 1964 Presidential Task Force on Education and the Elementary and Secondary Education Act of 1965." Unpub. Ph.D. diss., University of Chicago, 1967. At the time that Kearney did his analysis, he did not have a copy of the official report of the Gardner Task Force Report, but he was able to recreate the contents of that document from materials supplied by some of the participants. Indeed, his understanding of the labs based upon earlier documents as well as discussions with the participants almost exactly mirrors what is found in the final draft of that report.

Laboratories were seen as a way of overcoming the lack of adequate dissemination and adoption of new educational ideas and practices:

> The past ten years have brought a wealth of new ideas and programs in almost every area of education, particularly at the elementary and secondary level. Yet the efforts of the past ten years have not brought about the far-reaching changes that one might wish, partly because neither the efforts to innovate nor the arrangements for disseminating innovation have been on a scale adequate to the need. To remedy that defect, the Task Force recommends Federal aid for the establishment of large-scale National Educational Laboratories which would develop and disseminate ideas and programs for improving educational practices throughout the country. There should be at least a dozen major laboratories and perhaps two or three dozen more that are specialized or

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[3] John Gardner, "Report of the President's Task Force on Education" (November 14, 1964), p. 33. The report is available at the LBJ Presidential Library, Austin, Texas.

less ambitious in scope.[4]

The Gardner Task Force explicitly stated that these labs should not be "small-scale efforts, operating out of a corner of a department of education, rooted in the interests of a few faculty members, and having little connection with the daily practice of education in the community." Instead, they saw them as "more closely akin to the great national laboratories of the Atomic Energy Commission and should share many of their features."[5] Although they should pay considerable attention to basic research, "the central focus of the laboratories will be on the development and dissemination of educational innovations."[6]

Given the emphasis on developing and disseminating educational innovations to the local schools, the Gardner Task Force emphasized the importance of testing and refining materials. Therefore, they recommended that each lab have one or more experimental schools under its own jurisdiction. "Taken collectively, these experimental schools might constitute a nationwide network to test the feasibility of new methods. In other words the school would not only serve the laboratory with which it was affiliated but other laboratories too. Thus it might at any given time be testing a new reading unit that had been locally produced and a mathematics unit that had been developed 3,000 miles away."[7] They also recommended that links be established "with numerous schools (or school systems) for the sake of teacher training and the field testing of new programs."[8]

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[4] Gardner, "Report of the President's Task Force on Education," p. 34.

[5] Gardener, "Report of the President's Task Force on Education," p. 34.

[6] Gardner, "Report of the President's Task Force on Education," p. 35.

Unlike the situation today, where only one of the ten labs is affiliated with a university, the Gardner Task Force argued that all labs should have a university connection.[9] "It would also be essential that each laboratory have some kind of affiliation with a neighboring university. It could be under the jurisdiction of a university, or sponsored by a group of universities, or affiliated in other ways."[10]

Although the existing R&D centers and the proposed labs might overlap to some degree, they were seen as different, but complementary entities. "[T]he Laboratories described here go beyond the centers created by the Office in certain respects, chiefly the following: (a) considerably greater emphasis on development and upon the dissemination of innovation, (b) the use of experimental schools and extensive pilot programs in the regular schools and (c) provision for teacher training as an integral part of the program."[11]

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[7] Gardner, "Report of the President's Task Force on Education," p. 36.

[8] Gardner, "Report of the President's Task Force on Education," p. 35.

[9] But some of the other laboratories today do try to maintain close ties to colleges and universities. For example, the Appalachia Educational Laboratory (AEL) has representatives from the colleges and universities on their governing board, works with them on their Colleges and Schools Program, and hires expert consultants from those institutions.

[10] Gardner, "Report of the President's Task Force on Education," p. 36.

The ideas of the Gardner Task Force on the educational laboratories played a very important role in the development and passage of Title IV of the Elementary and Secondary Education Act (ESEA) of 1965. Title IV authorized the establishment of a network of large-scale labs, but did not require that the labs have experimental schools associated with them or that teacher training be an integral part of their activities. Moreover, while universities could apply for the funds to create these labs, so too could other non-profit groups which were not affiliated with universities.[12]

There was considerable disagreement over the size of the initial labs and how rapidly they should be created. The Gardner Task Force envisioned well-funded, large-scale institutions. Some of the lab proponents also argued that these organizations should be phased in gradually so that ample time would be allowed to experiment with the best institutional arrangements for them.

A decision was made to create quickly a large number of labs and to place them in various regions of the country--partly in the hope that the U.S. Congress would quickly increase funding. In January of 1966 10 labs were funded and by the end of that year, 20 labs were under contract. Nineteen of the twenty labs were designed to serve the states and one, the Center for Urban Education, was intended for helping the major urban areas. The manner in which regions were drawn meant that some states were split between two or more labs; on the average there were fewer than three states per lab.[13] In FY66 $26.8 million (in constant 1982-84 dollars) were allocated to the labs and doubled during the next year (see figure 2). The total amount of money in constant dollars for the labs peaked in 1970 and the present total expenditures on those institutions is only slightly more than a third of what it was three decades ago.

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[11] Gardner, "Report of the President's Task Force on Education," p. 37.

[12] Kearney, "The 1964 Presidential Task Force on Education". For an a discussion of the Elementary and Secondary Education Act (ESEA) of 1965, see Stephen K. Bailey and Edith K. Mosher, ESEA: The Office of Education Administers a Law (Syracuse, NY: Syracuse University Press, 1968).

Insert figure 1

Compared to the expectations of the Gardner Task Force, the labs have always been rather modest in size. The initial labs rose from an annual average of $1.4 million (in constant 1982-84 dollars) in FY66 to an annual average of $4.3 million in FY70--a level at which they were maintained or even slightly increased despite dramatic reductions in the total number of labs in the early 1970s (see figure 2). The average annual funding for labs

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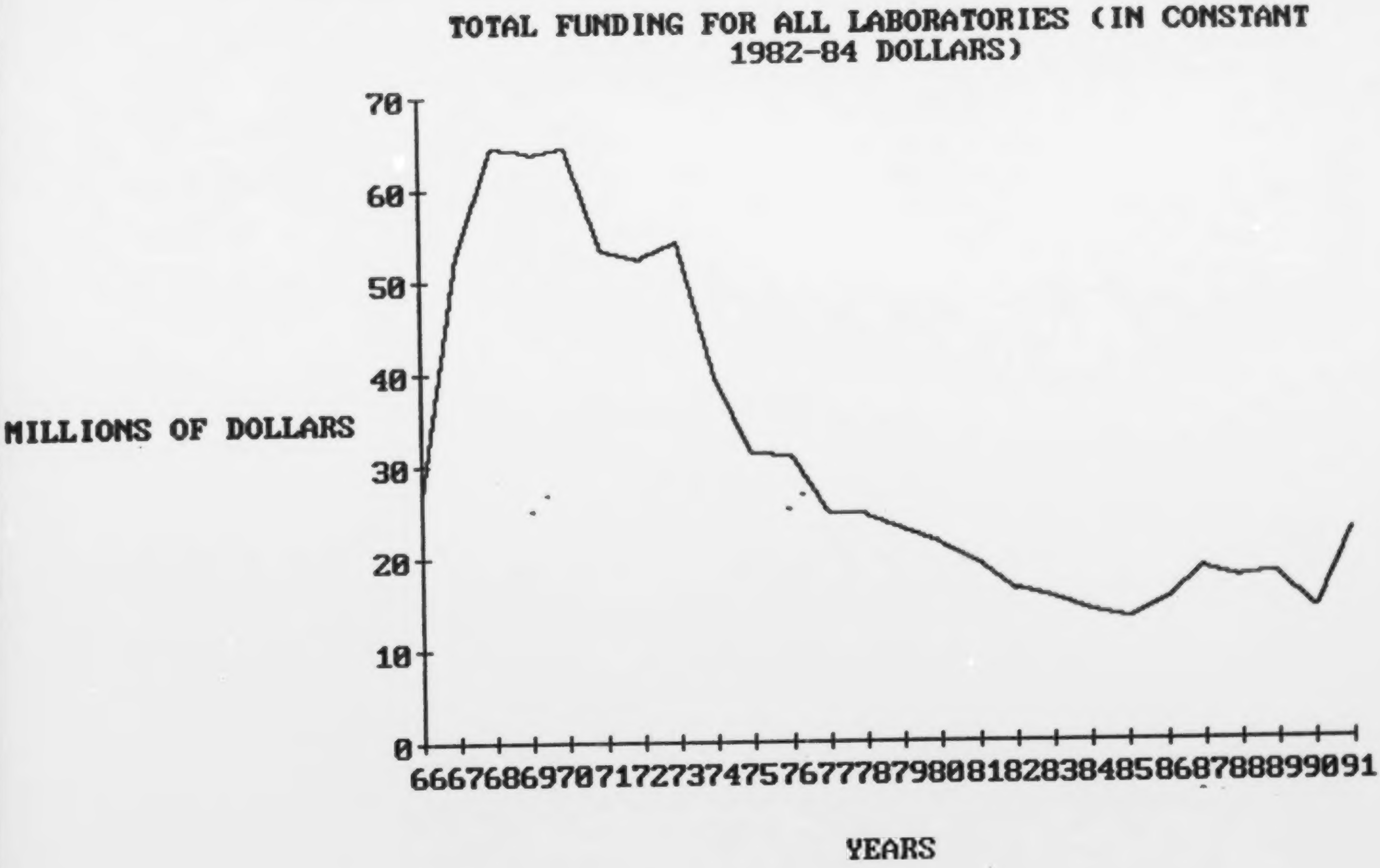
[13] Ward S. Mason, "Regional Educational Laboratory Approaches to Educational Improvement: A Descriptive Synthesis," Final Report of the Laboratory Synthesis Project, RFQ 108331 (December 1988), p. II-8.

FIGURE 1


TOTAL FUNDING FOR ALL LABORATORIES (IN CONSTANT 1982-84 DOLLARS)
MILLIONS OF DOLLARS
0
10
20
30
40
50
60
70
66676869707172737475767778798081828384858687888990 91
YEARS

declined in the second-half of 1970s and 1980s so that today the average annual lab budget in constant dollars is only $2.3 million--about half of its earlier level.

Insert figure 2

There was also considerable debate over the national versus the regional orientation of the labs. The Gardner Task Force had emphasized the national nature of the labs, but many of the staff at the U.S. Office of Education (USOE) stressed their regional functions--in part because they felt that every congressperson wanted a lab in their own region. Francis Keppel, an early proponent of national rather than regional labs, switched his position. When someone challenged Keppel about his support of regional labs, he justified his new position because "Title IV labs are going to be a porkbarrel. Every Congressman is going to want one in his region."[14] Moreover, since the designation of "national" labs raised fears about excessive federal control, it seemed more prudent to call them "regional" labs.[15] This tension between the "national" and "regional" focus of the labs was not satisfactorily or conclusively settled and it even remains as an important unresolved issue today.

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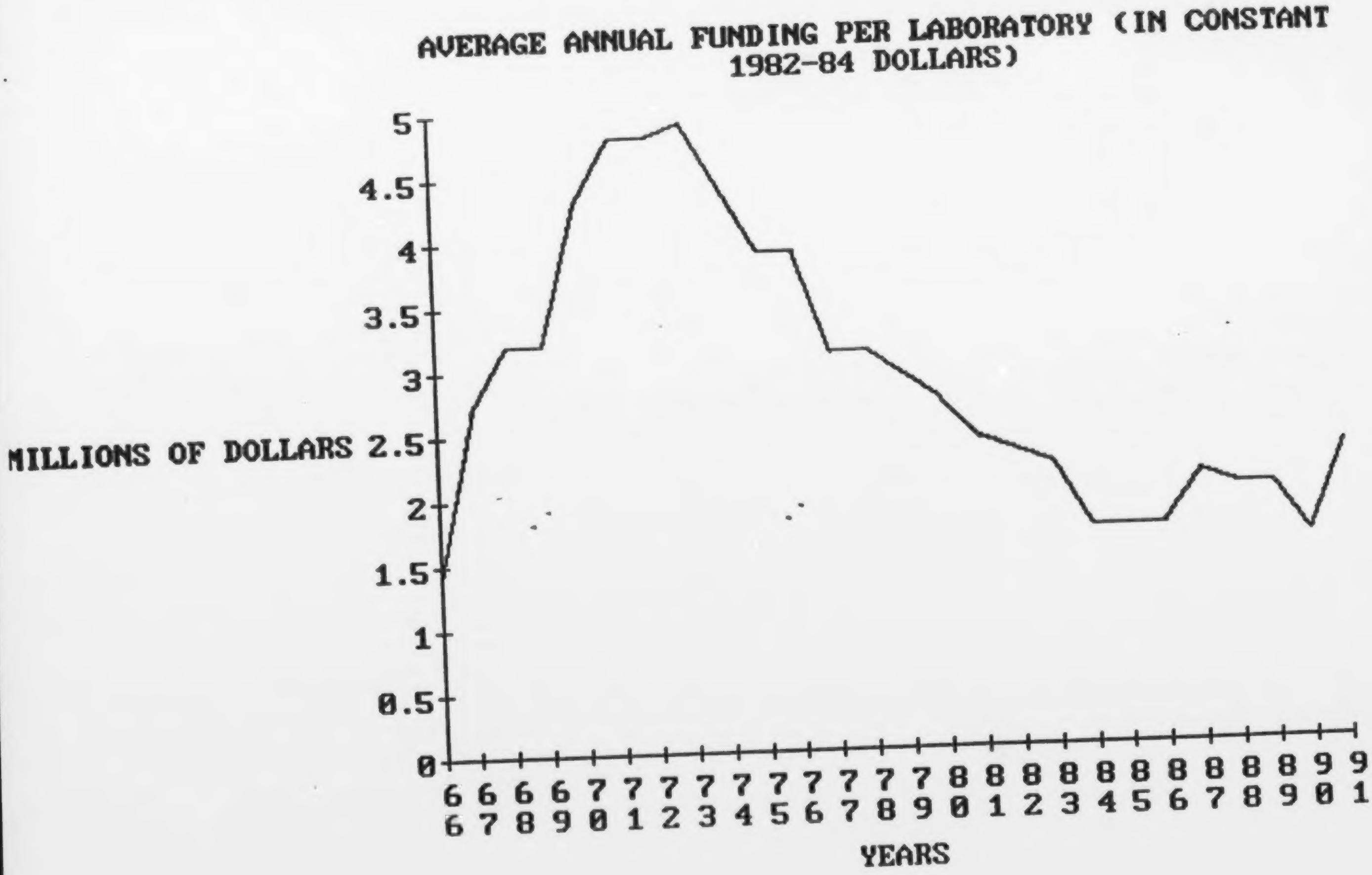
[14] Quoted in Richard A. Dershimer, The Federal Government and Educational R&D (Lexington, MA: Lexington Books, 1976), p. 86.

[15] For a thorough discussion of the early debates over the nature and function of the labs within the U.S. Office of Education (USOE), see Dershimer, The Federal Government and Educational R&D, pp. 83-103.

FIGURE 2


AVERAGE ANNUAL FUNDING PER LABORATORY (IN CONSTANT 1982-84 DOLLARS)
MILLIONS OF DOLLARS
5
4.5
4
3.5
3
2.5
2
1.5
1
0.5
0
66
67
68
69
70
71
72
73
74
75
76
77
78
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89
90
91
YEARS

The initial reactions to the labs were mixed. In a very influential and frequently cited analysis of the R&D centers and labs in the late 1960s, Francis Chase, Dean of the School of Education at the University of Chicago and a close ally of Gardner, enthusiastically endorsed the concept of labs as well as how they were being managed (though he also had some constructive suggestions for how to improve their operation).[16] He saw the R&D centers and labs as complementary activities and cited several instances of close co-operation between them.[17] Chase particularly stressed the joint role of the centers and labs in systematically developing educational products and disseminating them to schools.

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[16] While his public statements about the labs generally were laudatory, privately he seems to have been quite aware of the serious shortcomings in the functioning of many of the labs. For example, in a retrospective interview in the early 1970s, he observed that the labs "were going in all directions--service-oriented, research-oriented, giving grants to people who couldn't have gotten them in national competition, some behaving like state departments of education, others behaving like weak schools of education. A lot of trial and error." Quoted in Dershimer, The Federal Government and Educational R&D, p. 92.

[17] Francis S. Chase, "The National Program of Educational Laboratories: An Independent Appraisal of Twenty Educational Laboratories and Nine University Research and Development Centers Conducted Under Contract No. OEC-3-7-001536-1536" (Washington, DC: U.S. Department of Health, Education, and Welfare, 1968), pp. 9-12. For example, Chase pointed to the cooperation between the Research and Development Center at the University of Pittsburgh under the direction of Robert Glaser and Research for Better Schools, one of the local labs in developing and disseminating Individually Prescribed Instruction (IPI). While there certainly were some instances of close center-lab cooperation, Chase greatly exaggerated their prevalence and seriously under-estimated the difficulties involved in getting R&D centers and labs to work together as a team.

Centers typically address themselves to identification and/or formulation of theoretical models or systems to perform stated functions; and sometimes to the design of components or elements required to move from conceptual to working models and assembly of components into consistent systems. Centers and laboratories share in testing working models or systems in laboratory situations to reveal malfunctioning, unsolved problems, and undesired side-effects; and in subsequent refinement and redesign as needed to correct defects and increase power and efficiency. The laboratories typically arrange further testing under a variety of field situations to gauge performance more precisely, to reveal modifications required by characteristics of the population served and other variations in situations. Collaborating centers and laboratories share responsibility for progressive precision in specification of intended effects and of the resources and processes necessary to produce the desired effects. Careful analysis of the yields or benefits of the new or revised system under specified conditions, and of measures and costs involved in maintaining the specified conditions is likewise a joint responsibility.[18]

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[18] Chase, "The National Program of Educational Laboratories," pp. 26-27.

Chase wanted the laboratories to focus on a few large and long-term projects rather than spread their efforts and resources too broadly.[19] Moreover, while he acknowledged the regional nature of the labs, he saw them more as national institutions which would provide systematically developed and field-tested products well beyond their local areas.[20] He also recognized that any serious development efforts would be expensive and time-consuming:

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[19] Chase felt that the centers were generally more focused in their activities than the labs. He applauded the recent efforts of the labs to redefine their missions more narrowly and to focus their attention on a smaller number of projects and activities. Chase, "The National Program of Educational Laboratories," pp. 18-21. The U.S. Office of Education also believed that the mission of the labs was to be focused. As a representative of that office put it, "The functions of these laboratories are to identify the major educational problems of the region, to choose one or two priority areas in which to mount an effective program, and to devise and administer a coordinated program to solve those problem areas.... Regional laboratories will be doing research activities where these obviously bear on the problems attacked." U.S. Congress, House, Committee on Education and Labor. Study of the United States Office of Education. 90th Congress, 1st Session (House Document No. 193: Washington, DC: U.S. Government Printing Office, 1967), p. 227.

[20] "Experience seems to indicate that the more successful laboratories achieve national visibility and influence because of the power of the concepts with which they are working and their ability to incorporate these concepts in operational systems of superior performance.... My conclusion is that it is desirable to have one or more laboratories in the Northeast, the Northwest, the Southeast, the Southwest, the North Central, the South Central, and other major regions; but this does not mean that there is any special validity in the present so-called regional grouping of laboratories." Chase, "The National Program of Educational Laboratories," pp. 36-37. While the tension between regional and national labs did not disappear, in the late 1960s and early 1970s, the U.S. Office of Education (OE) and its successor, NIE, stressed their national orientation. Testimony of Richard Rossmiller, U.S.Congress, House, Subcommittee on Select Education, Committee on Education and Labor, National Institute of Education: Hearings before the Subcommittee on Select Education, 94th Congress, 1st Session (Washington, DC: U.S. Government Printing Office, pp. 101-102.

> Some of the curriculum studies supported by the National Science Foundation required expenditures of the order of a million dollars a year for several years; and while they produced notable improvements in texts and other instructional materials, none was subjected to the extensive development and testing which are necessary for reliable performance. While precise calculations are not yet possible, there is reason to believe that the development, production, testing, and refinement of even a fairly limited instructional system, requires a staff of fifteen or more highly qualified specialists and generalists with a supporting technical and clerical staff. Special facilities are also required for experimentation, design of prototypes, production of components, assembly of components into systems, and rigorous testing at each stage of development.... As the actual development of components and the fitting together of systems occurs, the annual cost for a single well designed program is likely to exceed a million dollars. If it is assumed that an organization will be engaged simultaneously in the development of three or more complementary programs or systems, the annual funding of the organization might easily exceed three million dollars.[21]

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[21] Chase, The National Program of Educational Laboratories," pp. 51-52. In constant 1982-84 dollars, the annual $1 million cost of each development project would be $2.9 million. Thus, the

While Chase whole-heartedly endorsed the concept and activities of the labs, other analysts were less sanguine about their achievements and direction. The U.S. House Special Subcommittee on Education, which was investigating the U.S. Office of Education, expressed strong reservations about the actual operation of the labs. For example, the Subcommittee found considerable confusion about the mission of the labs--even among some of the staff of the labs. Similarly, the Subcommittee often found no clear distinction between the R&D centers and the labs. Moreover, the members voiced grave concern about the large proportion of high salaries among lab personnel. However, both the Subcommittee and Chase did agree that the erratic and uncertain funding of the labs made any long-term planning extremely difficult.[22]

Just as it appeared that the situation of the labs in the late 1960s finally might be stabilizing and improving, serious congressional opposition to an expansion of their funding arose. Some of this opposition was based on changes in key legislators or alterations in their responsibilities; but much of the opposition was due to the competition for scarce funds as a result of the escalation of the Vietnam War.[23]

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minimum size of a lab which had at least three development projects would be about $9 million (in constant 1982-84 dollars).

[22] U.S. Congress, House, Study of the United States Office of Education, pp. 224-229, 240.

[23] John Fogarty, chairman of the House Subcommittee on Appropriations for the Department of HEW and a staunch supporter of federal research died in 1968. Moreover, Congressman Edith Green,

The creation of 20 relatively small labs in the mid-1960s had been predicated upon the expectation of a major expansion of federal funding for them. While the White House did propose a 50 percent increase in lab funding for FY69, the Congress provided only a 4 percent increment. As a result, the U.S. Office of Education (USOE) decided to terminate five of the labs and signaled the end of the planned rapid expansion of the labs.[24] Although there was a modest increase in lab funding in FY70, a 14 percent decrease the following year led to the closing of another four labs. The even larger declines in funding of the newly created National Institute of Education (NIE) meant continued reductions in federal support for laboratories and by 1975 only eight labs survived.[25]

At the same time that the overall budget of the labs was being reduced in the early 1970s, the manner in which the labs and the R&D centers were funded was also being reviewed and revised. The Gardner Task Force and the report by Francis Chase had argued for large-scale labs with stable funding. But the attacks upon the

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chairperson of the Special Subcommittee to Study the Office of Education, began to attack the labs--especially since she thought that the lab staffs were overpaid. But the budget constraints due to the increased costs of the Vietnam War created a climate in which all domestic spending increases became more difficult. Dershimer, The Federal Government and Educational R&D, pp. 95-98.

[24] Dershimer, The Federal Government and Educational R&D, pp. 98-101.

[25] For an excellent discussion of the problems of NIE and its funding, see Lee Sproull, Stephen Weiner, and David Wolf, Organizing an Anarchy: Belief, Bureaucracy, and Politics in the National Institute of Education (Chicago: University of Chicago Press, 1978).

Bureau of Research within the U.S. Office of Education by the Congress and other agencies within the Administration for failing to provide any immediately useable products led to a fundamental redefinition of the research and development process. No longer content to let individual researchers or institutions pursue their own personal agendas, the Bureau of Research stressed "mission-oriented" research--a concept borrowed from the Defense Department. Labs and R&D centers now also were expected to compete directly for specific research projects rather than receiving their federal funds outright. This "program purchase" approach initiated by the Bureau of Research was continued when labs and R&D centers were transferred to the National Institute for Education (NIE) (created in June 1972).[26]

The labs and R&D centers strenuously objected to the program purchase policy because it fragmented their activities and emphasized short-term planning. They had banded together for informational purposes in 1969 at the insistence of the federal government. While initially lobbying was not a major focus, the Council for Educational Development and Research (CEDaR) moved to Washington, DC in 1974 and argued for the Ford Administration and the Congress to reverse the program purchase policy.[27]

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[26] Samuel D. Sieber, "Federal Support for Research and Development in Education and its Effects," in The Seventy-third Yearbook of the National Society for the Study of Education, C. Wayne Gordon, ed., Part 2 (Chicago: University of Chicago Press, 1974), pp. 478-502; Spoull, Weiner, & Wolf, Organizing an Anarchy.

[27] Initially, CEDaR had not opposed the program purchase policy, but only did so when it became evident that it would fragment their institutions. Carolyn Breedlove at the National

NIE and the National Council on Education Research (NCER) commissioned ten consultants to do a quick three-month review of the funding policies of NIE. Most of the consultants were prominent educators and many had considerable previous experience with research and evaluation activities. While the consultants raised important questions about the effectiveness of the present lab system, they observed that "for us the only question about the basic concept of the laboratories is how to make it work well, not whether the laboratories should exist. The need for established, long-term, R&D institutions still impress us."[28]

The consultants made eight important recommendations which reflect their particular vision for the role of the labs in the mid-1970s. Since their suggestions build upon the earlier expectations for the labs and differ considerably from many of the assumptions today, it may be worthwhile to quote them at some length:

> First, there should be a small number of very high quality institutions, perhaps no more than a half dozen....
>
> Second, each institution should center on a mission, closely related to a priority of the major sponsoring

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Education Association (NEA) is now completing an indepth analysis of the origins and evolution of CEDaR.

[28] Ronald F. Campbell et al., R&D Funding Policies of the National Institute of Education: Review and Recommendations. National Institute of Education (Washington, DC: Department of Health, Education, and Welfare, 1975), p. 24.

agency, the National Institute of Education. The work of the organization would be to take ideas from their inception through their development, refinement, and testing where appropriate, to dissemination....

Third, the organizations' funding...must be stable (three to five years), it must come chiefly from one source (NIE), and it must be clearly tied to specific work agreed upon in advance, and it must be in the magnitude of $3 to $4 million per year at least....

Fourth, the organization must be protected from demands to give undue services to local and state agencies unrelated to the major R&D mission.... [W]e are cautioning against seeing a small number of national laboratories as places where practitioners might go and expect advice on education problems generally.

Fifth, it should be clear that the unusual guarantee of continued funding will bring with it a need for an unusual degree of monitoring and review of the work....

Sixth, the pursuit of other funds by the organization should be subject to review and perhaps limitation, in order to insure the focus on the major goals of the chief sponsoring agency, NIE....

Seventh, the redesigned laboratories would no longer be designated "regional", though we feel they should be located in different parts of the country. So long as they expect substantial Federal support in an era of very

> tight Federal R&D dollars, they must be working on parts of the national R&D agenda, as set through a national process....
>
> Eighth, lastly, we are concerned that as such strong and unique institutions mature further, they maintain a prime commitment to effecting change and improvement in schools.... No amount of sophistication in the R&D work can compensate for irrelevance to the world of educational practice, and the renewed laboratories should not forget this....[29]

Since this analysis of the labs and R&D centers was produced amidst substantial decreases in NIE funding, there was concern that a proper balance of research activities be maintained. Therefore the consultants recommended that "no more than about a third of NIE's program funds be allocated to work at the resulting special institutions [labs and R&D centers]."[30]

Sam Sieber, one of the ten consultants, also added an appendix to this report which detailed his views on the requirements of a national educational R&D system. He addressed a topic which had not been widely discussed in the other reports--the importance of

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[29] Campbell et al., R&D Funding Policies of the National Institute of Education, pp. 25-27.

[30] Campbell et al., R&D Funding Policies of the National Institute of Education, p. 72.

"excellence or quality control."[31] Sieber briefly noted some of the factors which have led to the neglect of concern about quality--such as "the vagueness of evaluative criteria, the lack of consensus on procedures, and the failure of a major sponsor--NIE--to develop any agency-wide mechanism for assessing quality." He went on to recommend that "[p]erhaps what is vitally needed is a national task force or commission on the quality of educational R&D."[32] Unfortunately, his plea for examining the quality of the work produced by NIE or later OERI has been ignored almost entirely.

Not everyone agreed with all of the recommendations of the Campbell panel--particularly those suggestions which affected the labs. Richard Rossmiller, Chairman of CEDaR, and Robert Scanlon, member of the board of trustees of CEDaR, appeared at the House Hearings on NIE reauthorization and questioned wisdom of the proposed seemingly exclusive national orientation of the labs:

> With all due respect to the consultants, such an

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[31] Campbell et al., R&D Funding Policies of the National Institute of Education, p. 90. Sieber illustrated the dangers of not worrying about the quality of the research being disseminated. "The extent to which faddism dictates the adoption of innovations of doubtful merit has been demonstrated in a recent study of virtually all big-city secondary schools. This study reveals that while 46 percent of these schools are relatively high in adoptions of innovations, most of the innovations adopted by half of these innovative schools are of relatively low quality (as judged by a national panel of secondary school experts). Clearly, quality remains as important an issue as quantity of adoptions.

[32] Campbell et al., R&D Funding Policies of the National Institute of Education, p. 90.

> attitude smacks of elitism. Even more important, it reflects a lack of understanding about how effective r & d institutions relate to the field. The Campbell panel says that these national laboratories should do extensive field testing in schools. Well, we can guess what the attitude of the school practitioners would be to our request to bring our prototype products into their schools after we've turned down their request for assistance to a problem.[33]

Rossmiller and Scanlon did not object altogether to a national orientation for the labs, but only to an exclusive one at the expense of their regional ties. "In other words, the labs and centers are 'national' in terms of their scope of work. But they should also maintain strong ties to their region and state."[34]

The issue of the governance of the labs was also raised. The Campbell Report suggested that NIE should take a larger role in setting the priorities of the labs as well as in monitoring them more closely. Rossmiller and Scanlon disagreed with the panel's recommendation:

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[33] U.S. House, Subcommittee on Select Education, National Institute of Education: Hearings...1975, p. 109. Richard Rossmiller also was the Director of the Wisconsin Research and Development Center for Cognitive Learning and Richard Scanlon was Executive Director, Research for Better Schools, Inc., Philadelphia, PA.

[34] U.S. House, Subcommittee on Select Education, National Institute of Education: Hearings...1975, p. 110.

> We believe such a recommendation has inherent danger. The panel is recommending that the federal government manage the operation of the laboratory. The influence of the practitioner, in other words, would be negligible. The laboratory would simply be an extension of the Institute, an ivory-tower think tank isolated from the practitioner it's intended to serve. Furthermore, the issue of federal control over the development of a "national" curriculum would certainly be raised somewhere.[35]

But Rossmiller and Scanlon did agree with several of the other recommendations of the Campbell panel such as the need to continue support of NIE in general and of the labs and centers in particular. They also called for a rigorous evaluation of all NIE products--including those produced by the labs and centers.

> The questions, "How well does it work?" and "what difference does it make?" are frequently raised about the outcomes of research and development. The laboratories and centers take the position that quality control in product development is the single most important variable in their work. However, government pressure to disseminate products, coupled with the expense of ensuring quality control, often works against us. We

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[35] U.S. House, Subcommittee on Select Education, National Institute of Education: Hearings...1975, p. 110.

> believe that NIE has the responsibility for developing, in conjunction with educational practitioners and the research and development specialists, effective quality-control procedures.[36]

The National Council on Educational Research (NCER), the policy advisory group to NIE, "reviewed the consultants' report and is in general agreement with both their analysis and conclusions." It agreed that NIE "should take responsibility for the general institutional health of educational research and development and that substantial Institute resources should be directed toward a group of research and development institutions working directly with NIE on a long-term, large-scale basis."[37] The Council called for the establishment of two to four national laboratories selected from among the existing R&D centers and labs.[38] Moreover, as the "new system is gradually phased in, NIE should continue to reserve a substantial (but declining) proportion of its budget for supporting, developing, and strengthening existing laboratories and centers capable of high quality research."[39] In an appendix to its document, the Council detailed its vision of the new national labs and the old regional labs. The regional labs were to continue to provide assistance and services to practitioners in their local areas while also conducting R&D programs of national significance.[40] Thus, the Council opted for a middle course between the almost exclusive national orientation for the labs according to the Campbell panel's recommendations and the desire of others to maintain a regional focus for the existing labs.

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[36] U.S. House, Subcommittee on Select Education, National Institute of Education: Hearings...1975, p. 116.

[37] National Council on Educational Research, "Resolution of the National Council on Educational Research Institutions Engaged in Education Research and Development" (NCER Resolution No. 091875-18, July 23, 1976), p. 1.

[38] U.S. House, Subcommittee on Select Education, National Institute of Education: Hearings...1975, p. 111.

Five key members of the U.S. Senate Committee on Labor and Public Welfare strongly objected to the efforts of NIE and NCER to create the proposed new national labs while at the same time gradually reducing the number or the funding of the existing regional labs.[41] In response, Harold Hodgkinson, the Director of NIE, quickly reassured everyone that no attempt would be made to revise dramatically the lab system or to phase out existing labs as long as they fulfilled their stated missions. "The question, then, is not whether we will support labs and centers, but how we will insure that a lab and center program and the institutions in it are as strong as possible." Hodgkinson went on to reiterate that federal responsibility for the labs and centers should include a "rigorous assessment of these institutions...and, if necessary, [a] phase out of special relationships with those which can't pass muster after considerable support from NIE."[42]

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[39] National Council on Educational Research, "Resolution of the National Council on Education Research Institutions Engaged in Education Research and Development," p. 1.

[40] National Council on Educational Research, "Resolution of the National Council on Education Research Institutions Engaged in Education Research and Development," Appendix C.

[41] Jennings Randolph et al, "Letter to Harold L. Hodgkinson," (January 27, 1977).

While NIE Director Hodgkinson readily acquiesced to the congressional pressures, the National Council on Educational Research (NCER) was more hesitant. NCER withdrew its original proposal to create a few national labs and to reduce the number of regional labs, but they chastised Hodgkinson for agreeing to a "special institutional relationship" with the labs before the quality of each of their institutions had been established. Indeed, a NCER Committee to review these issues felt "that the Institute is not paying sufficient attention to considerations of quality and relevance which the Committee believes to be at least equal in importance to considerations of stability and political comity." The NCER Committee went on to define quality in a broad, comparative sense (and one that might be worth resurrecting even today):

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[42] Harold L. Hodgkinson, "The Official NIE View of Labs and Centers," National Institute of Education Memo (March 1, 1977), p. 2. Hodgkinson acknowledged the previous hostility between NIE and the centers and labs and admonished the NIE staff to change their behavior. "We all know that the history of the NIE/lab and center relationship has been fraught with distrust so it is not surprising that our lab and center policies are received with some skepticism. What concerns me, however, is that we continue to fuel this paranoia by informally conveying anti-lab and center sentiments in our conversations and behavior. This behavior and the image it projects proves detrimental to the Institute since much of our difficulty with Congress and the labs and centers is due to the appearance and not the reality of our lab and center policies." Ibid, p. 1.

> A principal test of quality and merit, however, must be a comparison with other potential awardees. This is true of all Federal agencies engaged in fields where absolute tests are not available. It is not clear that this emphasis on quality, merits and comparative judgment is being adequately emphasized in the NIE review process. Too often, when considering labs and centers in relation to other R&D organizations, the Institute finds itself in the posture of having to prove that a lab or center is incompetent or mediocre in order to shift funding from previously-established patterns.[43]

If the Campbell report of 1975 reiterated the Gardner Task Force's vision of large-scale national labs, directives from the Congress led to a rather different view of the labs. First, the Congress legislatively mandated the continued existence of the labs and R&D centers. Second, it called for the creation of a new panel to review and assess the existing labs and R&D centers and to make recommendations for their long-term development. As we shall see, this important panel rejected the Gardner Task Force national vision and moved toward more regional labs--a position compatible with the growing sentiment within segments of NIE itself which despaired that the existing labs were neither producing high quality products nor responding adequately to suggestions from the NIE lab monitors.

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[43] John E. Corbally, "Review of Resolution 18," National Council on Education Research memo (May 19, 1977), pp. 6-7.

Under congressional pressure for the more immediate impact of research and development upon schools and their call for more dissemination, the new Director of NIE, Patricia Graham, tried to involve more educational practitioners in NIE activities. Based upon earlier negotiations between NIE and CEDaR, among the 15 individuals for the congressionally-mandated panel to review the labs and R&D centers, Graham selected a sizable contingent of practitioners.[44] The placement of a large number of practitioners on the new panel was a major departure from the composition of the Campbell group and probably contributed to the redirection of the mission of the labs. As the Panel for the Review of Laboratory and Center Operations remained in operation for two years and was active throughout the entire period, the group had considerable impact on how labs were perceived and treated.

The Panel for the Review of Laboratory and Center Operations rejected the national orientation proposed by the Campbell group and recommended more regionally controlled and oriented labs. They saw labs as designed to:

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[44] NIE and CEDaR had reached an agreement in a meeting on September 3, 1976 that "no less than half of the Panel members will be educational practitioners (with an emphasis on elementary and secondary practitioners)." Harold L. Hodgkinson and Richard A. Rossmiller, "Memorandum of Agreement Between NIE and Labs and Centers from the September 3 Meeting," National Institute of Education Memo (October 4, 1976).

identify concerns and priorities through regionally representative governing and advisory structures and activities that help the regional clientele define their needs;

conduct applied research and development in pursuit of those priorities;

provide technical assistance to the region;

facilitate communication among agencies and individuals;

promote the use in the region of R&D results from all sources; and

disseminate the results of their own R&D on a national basis.[45]

While the panel accepted research and development as legitimate lab activities, it stressed the regional nature of these activities. Moreover, the panel emphasized the role of labs in providing technical assistance to the regions and stressed the importance of dissemination. Thus, the initial vision of the labs as large-scale national research and development institutions proposed by the Gardner Task Force and reiterated by Francis Chase and the Campbell panel in their investigations was rejected and thereafter neither NIE or OERI again put forth this view as an ideal model for the labs.

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[45] Panel for the Review of Laboratory and Center Operations, Research and Development Centers and Regional Educational Laboratories: Strengthening and Stabilizing a National Resource. Final Report, National Institute of Education (Washington, DC: U.S. Department of Education, 1979), p. 8.

Another major change for the labs in the late 1970s was NIE's growing hostility to supporting the large-scale development of curriculum. The federal government became increasingly involved in supporting curriculum development after the Russians launched Sputnik in 1957.[46] The National Science Foundation (NSF) spent $180 million from 1957 to 1975 to support curriculum projects.[47] And the Gardner Task Force in 1964 had explicitly recommended that the labs "would develop and disseminate ideas and programs."[48] As a result, many of the R&D centers and labs in the late 1960s and early 1970s developed and distributed curriculum packages. The University of Wisconsin R&D Center created the Individually Guided Education (IGE) project and CEMREL, the St. Louis based lab, developed the "Comprehensive School Mathematics Program."[49]

As the federal agencies entered the area of curriculum development, they increasingly faced critics who argued that this was an inappropriate role for the national government. Particular criticism was directed at the NSF-funded upper elementary school social studies course, "Man: A Course of Study" (MACOS) which was accused of subverting American traditional values and beliefs.[50] Moreover, some publishers attacked the courses developed by the R&D centers and the labs for duplicating and undercutting their efforts. As a result, the National Council on Educational Research (NCER) appointed a Task Force to examine and guide NIE's curriculum development activities.

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[46] For an analysis of curriculum changes in the past, see Larry Cuban, "Determinants of Curriculum Change and Stability, 1870-1970," in Value Conflicts and Curriculum Issues: Lessons from Research and Experience, eds. Jon Schaffarzick and Gary Sykes (Berkeley, CA: McCutchan, 1979), pp. 139-196; Herbert M. Kliebard, "Systematic Curriculum Development, 1890-1959," in Value Conflicts and Curriculum Issues, eds. Schaffarzick and Sykes, pp. 197-236.

[47] J. Galen Saylor, Who Planned the Curriculum? A Curriculum Plans Reservoir Model with Historical Examples (West Lafayette, IN: Kappa Delta Pi Press, 1982), p. 64.

[48] Gardner, "Report of the President's Task Force on Education," p. 34.

[49] Saylor, Who Planned the Curriculum? pp. 66-67. For a recent discussion of some of these efforts, see Richard C. Atkinson and Gregg B. Jackson, eds., Research and Reform: Roles for the Office of Educational Research and Improvement (Washington, DC: National Academy Press, 1992), pp. 25-45.

The NIE Curriculum Development Task Force examined the issue in considerable detail and proposed four policy alternatives ranging from having NIE totally abandon any curriculum development activities to supporting the existing freedom for R&D centers and labs to undertake full-scale curriculum development. NIE Director Hodgkinson announced in early 1977 that:

> NIE's primary contribution to the improvement of instructional programs and materials is to sponsor (1) the conduct, synthesis, and dissemination of relevant research, (2) efforts to strengthen, facilitate, and coordinate others' work in improving instructional programs and materials, and (3) the prototypic development of new instructional programs and materials. Among these, research activities represent the

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[50] Jon Schaffarzick, "Federal Curriculum Reform: A Crucible for Value Conflict," in Value Conflicts and Curriculum Issues, eds. Schaffarzick and Sykes, pp. 1-24. For an indepth analysis of the MACOS project, see Peter B. Dow, Schoolhouse Politics: Lessons from the Sputnik Era (Cambridge, MA: Harvard University Press, 1991).

> Institute's highest priority, followed by efforts to strengthen, facilitate, or coordinate others' work, and then prototypic development. Finally, full-scale development may be considered by NIE, but only for certain limited purposes and only when none of the primary activities will suffice.[51]

NIE's limited support of curriculum development activities as well as the mandate from Congress for the Institute not to be involved in this area had a profound effect on many of the R&D centers and labs. As the R&D centers abandoned development, most of them simply turned their attention to other areas of research. For the labs, however, the decision to abandon NIE-funded full-scale curriculum development meant that much of their previous extensive research and evaluation efforts were now abandoned altogether. Coupled with the growing focus on regional issues and the provision of technical assistance, many of the labs gradually lost the high quality personnel who had been working on curriculum development and who were an indispensable component of the Gardner Task Force's original vision for staffing of the labs.

Another major and at first seemingly cataclysmic event for the labs was the presidential election of 1980. Although partisan changes in the past did not necessarily seem to have much direct impact on the running of the labs, the 1980 election brought to power individuals who no longer accepted some of the basic assumptions of those who had staffed NIE during the Nixon, Ford, and Carter Administrations. Just as NIE and CEDaR were beginning to reach a mutual accommodation in the late-1970s on how to view and manage the labs, Edward Curran, the first Reagan appointee to head NIE, sought to abolish the agency entirely. Moreover, Curran and his successor, Robert Sweet, dismissed many of the NIE employees and replaced them with individuals who were skeptical of the existing education establishment. While Curran and Sweet did not succeed in eliminating NIE, thanks in part to the strong interventions of the Secretary of Education, Terrel Bell, the turmoil they brought to NIE disrupted many of the working relationships which had begun to crystalize earlier--including the emerging partnership between CEDaR and NIE.[52]

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[51] Harold L. Hodgkinson, "NIE's Role in Curriculum Development: Findings, Policy Options, and Recommendations," National Institute of Education, February 8, 1977 [prepared by Jon Schaffarzick and Gary Sykes], p. 109. The definition of "prototypic development" they used was the "design and production of an exemplary part of an instructional program (e.g., a one-week unit in a two-semester course) to serve as a model for continued development." Ibid., p. 3.

The difficulties at NIE were compounded by the substantial reductions in the budget as part of the overall effort to reduce federal domestic spending. NIE's budget was reduced from $82 million in FY80 to $53.2 million in FY82--a 35 percent decrease. If the lab and center funding were to remain constant, as had been previously negotiated as part of their five-year contracts, little money would have been left over for other projects in FY82. The

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[52] For a detailed analysis of the changes and turmoil at NIE between 1981 and 1983, see Philip Phaedon Zodhiates, "Bureaucrats and Politicians: The National Institute of Education and Educational Research Under Reagan," Unpub. Ed.D. diss., Harvard University, 1988.

Omnibus Reconciliation Act of 1981 stipulated that NIE could proportionately adjust downward all of its grants and contracts to finance the decrease, but CEDaR successfully lobbied to protect most of the lab and center funding. The Continuing Resolution Appropriation specified that lab and center funding could be cut by no more than 10 percent for FY82. NIE did reduce lab and center funding by the full 10 percent, but the magnitude of the overall budget reduction meant that other NIE programs had to be cut even more severely.

There had been periodic complaints that while the labs and centers continued to receive a disproportionate share of NIE funds, they did not have to face any open competition to maintain their funding. Therefore, the Omnibus Reconciliation Act of 1981 also stated that labs and centers...."shall upon completion of existing contracts, receive future funding in accordance with government-wide competitive bidding procedures and in accordance with principles of peer review involving scholars and State and local educators to ensure the quality and relevance of the work proposed."[53]

Curran and his successor Sweet wanted to terminate the existing lab and center contracts immediately in 1982--arguing that this would have honored the initial three-year agreements with these institutions. But the labs and centers objected and insisted that their entire five-year contracts or grants with NIE be funded.

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[53] U.S. House of Representatives, Omnibus Budget Reconciliation Act of 1981: Conference Report (H.R. 3982, Report No. 97-208, 1981), p. 729.

CEDaR succeeded in getting the Senate Appropriations Committee to require NIE to fund these institutions through 1984.[54]

Manuel Justiz, who succeeded Sweet as the Director of NIE, initiated a highly public and open competition for the labs and centers. Included in this process was an extensive examination of the purposes and functions of the laboratories which culminated in a set of recommendations by the NIE Laboratory Study Group. The Laboratory Study Group listed a variety of tasks for these institutions, but noted that "[l]aboratory responsibility would be relatively less in the area of research and relatively greater in development and other transformations of research to directly useful products and processes."[55] The Study Group also considered five more specialized functions for the labs, but concluded that the existing "general purpose" laboratory model with its multiple constituencies and multiple purposes was best.[56]

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[54] Zodhiates, "Bureaucrats and Politicians," pp. 85-90.

[55] NIE Laboratory Study Group,"Expanding and Strengthening NIE's Regional Laboratory Services: Needs, Issues, and Options," (Washington, DC: National Institute of Education, October 3, 1983), p. 3.

[56] NIE Laboratory Study Group, "Expanding and Strengthening NIE's Regional Laboratory Services," p. 10. The five options considered and rejected were "(1) laboratories focusing on research and technical assistance for education policymakers in state and local government, including and [sic] boards of education; (2) laboratories working with a broad array of assisting organizations to improve local district, school, and classroom practice; (3) laboratories focusing on improvement of professional training and inservice development of teachers and administrators; (4) laboratories providing direct service to local schools; and laboratories specializing in various substantive areas (e.g., reading math, science, technology, finance)." Ibid., 10. While the Study Group discussed the first three options in some detail and felt they deserved further consideration, they rejected options

The Study Group accepted the regional nature of the labs, but called for closer co-ordination between NIE's national priorities and the activities of the labs. They suggested a 50 percent increase in overall funding for NIE with a proportionate boost for the labs. "As additional funds are made available to NIE," the Study Group recommended "that NIE provide some resources for competitive opportunities for the laboratories, consistent with their basic purposes."[57] Unlike the Campbell Panel in 1975 which worried about too much extraneous outside funding for the labs, the Study Group "recognized the importance of laboratories seeking other funding sources to expand the impact of their core NIE support."[58] The Study Group also called for more effective monitoring of the labs and urged a clearer distinction in functions between the labs and centers. Finally, they emphasized the need for closer co-operation between the labs and centers and stated that "NIE and the labs should interactively develop plans for addressing national priorities."[59]

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4 and 5 as inappropriate models for NIE's laboratories.

[57] NIE Laboratory Study Group, "Expanding and Strengthening NIE's Regional Laboratory Services," p. 4.

[58] NIE Laboratory Study Group, "Expanding and Strengthening NIE's Regional Laboratory Services," p. 4.

[59] NIE Laboratory Study Group, "Expanding and Strengthening NIE's Regional Laboratory Services," p. 8. Whereas many of the plans for the laboratories in the late-1970s and early 1980s stressed the importance of the regional laboratory governing boards in setting the agenda, this report tried to balance national and regional interests and emphasized the need to arrive at a negotiated settlement. "NIE should establish a five-year R&D agenda focused on the remediation of identified weaknesses in American education. In response to this agenda, the lab and center

There was considerable skepticism that an impartial and open competition for the labs and centers would be held in 1985. However, almost everyone agrees that NIE managed to conduct a fair and effective peer review process.[60] The Request for Proposals (RFP) for the laboratories identified five tasks for these institutions: (1) develop effective governance, management, planning and evaluation systems for the laboratory; (2) work with and through existing organizations to improve schools and classrooms; (3) work with State-level decisionmakers on school improvement issues; (4) work to create research and development based resources for school improvement; and (5) work in collaboration with centers and with other laboratories on regional and national educational problems.[61]

Many of the general trends in the treatment of the labs in the late 1970s and early 1980s were continued in the 1985 Request for Proposals. The regional orientation and control of the labs were maintained. Stress was placed on labs to provide technical services for their regional clients.

But there were also some shifts in emphasis. In the past labs

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directors should submit to NIE tentative plans for their activities. After consultation with staff, the NIE Director should meet with each lab or center director to modify in a mutually acceptable fashion these long-range plans." Ibid.

[60] For an analysis of the peer review process in the 1985 lab and center competitions, see Thomas W. Schultz, "Behind Closed Doors: Peer Review in the NIE Research Center Competition," Unpub. Ed.D. diss., Harvard University, 1988.

[61] National Institute for Education, "Regional Educational Laboratory Institutional Operations: Request for Proposal, 1985," (Washington, DC: National Institute of Education, 1984), pp. 18-25.

pursued a wide variety of tasks in furthering general educational improvement. Now labs were told to "focus on school and classroom improvement." Moreover, labs were expected to "feature dissemination and assistance strategies." Finally, labs not only were encouraged to collaborate with other labs and centers, but they were required to set aside a small, but fixed proportion of their funds for this effort.[62]

Research and development continued to be designated as lab activities, but now the stress was on short-term investigations, applied research and development, and the dissemination of research-based information to schools. Compared to the original vision of the labs in the 1960s and early 1970s, however, research and development activities were de-emphasized in the 1985 competition. Only about 20-35 percent of the lab's work program were assigned "to create research and development based resources for school improvement."[63]

The entire concept of development had been substantially revised since the early 1970s. Whereas many labs had originally developed large-scale, field-tested curriculums, the guidelines now called for more modest products "such as research-based training designs, directories, guides or other practical materials that support the improvement process in their region."[64] While NIE had been prepared at least to entertain the idea of some ambitious curriculum proposals earlier, now the Institute explicitly and unequivocally stated that "laboratories may not use NIE funds to engage in long-term curriculum development efforts."[65]

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[62] National Institute of Education, "Regional Educational Laboratory Institutional Operations," 1985, pp. 10, 11, 16.

[63] National Institute of Education, "Regional Educational Laboratory Institutional Operations," pp. 13-14, 25.

By the end of the 1985 competition, 9 labs were in operation--6 former ones and 3 new ones.[66] Labs were apportioned regionally with no overlap in jurisdiction. And the Office of Educational Research and Improvement (OERI) was reorganized so that the labs were placed within the Program for the Improvement of Practice (PIP) while the centers were overseen by the Office of Research

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[64] National Institute of Education, "Regional Educational Laboratory Institutional Operations," p. 25.

[65] National Institute of Education, "Regional Educational Laboratory Institutional Operations, 1985," p. 14. NIE's opposition to any large-scale curriculum development stemmed in part from the resurgence of hostility in the early 1980s to any federal involvement in this area. For example, at the public hearing on a national competition for the labs and centers in Chicago in 1983, Louise Kaegi a former teacher, indirectly challenged federal support for curriculum development by questioning the usefulness of values clarification and affective education in the schools. Similarly, Reverend Hiram Crawford stated that "many teachers are alcoholics, dope addicts, sex symbols and engage in teaching value clarification and secular humanism, whose basic philosophy is communistic." National Institute of Education, "Transcript of Hearings on a National Competition for Regional Educational Laboratories and R&D Centers," Chicago, June 20, 1983, p. 177. Even more direct and vociferous attacks on federal support of curriculum development came at the Kansas City hearings where several participants questioned the NIE-supported work at CEMREL--one of the leading labs in curriculum development in the 1970s. National Institute of Education, "Transcript of Hearings on a National Competition for Regional Educational Laboratories and R&D Centers," Kansas City, June 22, 1983.

[66] Due to congressional mandate, the North Central lab had been competed in 1984 rather than 1985.

(OR). Moreover, a team of staff members were assembled in PIP to oversee the entire lab program and a particular staff person was assigned to each lab for monitoring.

Chester Finn, the Assistant Secretary for OERI, launched an extensive external review of the labs in the summer of 1987. Christopher Cross, the former ranking minority staff member on the U.S. House Subcommittee on Select Education, headed up the outside review panel. Teams of external reviewers and an OERI lab monitor visited each of these institutions for two and one-half days and evaluated their progress and proposed 3-5 year plans (using standardized evaluation criteria that had been developed for this review).

The Cross Lab Review Panel concluded that PIP's external review process was thorough and competent, but they observed that "[t]he panel received relatively little information about the quality or impact of lab products."[67] They went on to recommend that additional information about the quality and impact of the work should be obtained in the future.

The Panel questioned the overall clarity and vision of the mission of the labs and noted "that the labs are very strongly oriented to their regions." While the Panel praised the regionality of the labs, they also felt that "there are some legitimate roles outside the region which labs might become involved with."[68]

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[67] Christopher T. Cross et al., "Report of the Laboratory Review Panel on the 1987 Review of Laboratories," Office of Educational Research and Improvement (October 6, 1967), p. 3.

The continued shift away from research at the labs as a result of the 1985 competition was noted and concern was raised about the availability of practitioner-oriented research:

> The 1985 recompetition resulted in a transition of labs from institutions which conducted some significant R&D on their own, to ones providing assistance services, primarily in partnerships with others. While the change has clear benefits, one cost is the loss of practitioner-oriented R&D that labs used to conduct. In part, this transition makes the choice of the R&D that labs incorporate in their services more critical. Based on knowledge presently available to it, the panel is not sure that there is a sufficient locus of practitioner-oriented research emanating from other sources which the labs may draw upon.[69]

The Panel did not attempt to make any judgments on the overall quality of the labs, but did comment that since each of the external review teams looked only at one lab, they did not have an opportunity to make any comparisons. As a result, "the panel believes there is a tendency for reviews of this type to produce positive results.... This does not mean the results from this review are to be disbelieved, but the tendency for positive findings to result from such a process should be kept in mind."[70]

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[68] Cross, "Report of the Laboratory Review Panel," p. 7.

[69] Cross, "Report of the Laboratory Review Panel," p. 6.

While the Cross Laboratory Review Panel hesitated in coming to any conclusions about the overall quality of the labs, Assistant Secretary Finn did not. After reviewing carefully the reports of the external review panels, the lab monitors, and the response of the labs, Finn expressed his strong doubts about the work of the labs in an internal OERI memo. Based upon this extensive two-year review, Finn concluded that he did not "see any evidence that the taxpayers' substantial investment in labs these past two years has yielded any RESULTS of any sort."[71]

Assistant Secretary Finn frequently complained about the lack of flexibility in OERI research funding--due mainly to the congressional stipulation that the labs and centers receive the bulk of funds so that almost nothing was left for field-initiated research projects. While he had some criticisms of the centers, he reserved his strongest attacks for the labs. At a congressional oversight hearing on the functioning of OERI, Finn testified that:

> The laboratories, in particular, have not been a very renumerative investment per se. This is not to say that they do nothing useful--they and their energetic Washington lobbyists are quite capable of finding hundreds of laboratory customers who will claim satisfaction with services provided

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[70] Cross, "Report of the Laboratory Review Panel," p. 2.

[71] Chester Finn, Memo, Office of Educational Research and Improvement (October 27, 1987).

> by the laboratories. But I am saying that, given their present activities and configurations, and given the current fiscal constraints on the government, the laboratories represent a profligate use of OERI funds in relation to the benefit they generate.
>
> This is so for several reasons. I have already mentioned that laboratory impact is amorphous and difficult to assess, and that these institutions simply cannot provide services to more than a few districts in our immense education system. But congressional protection of the laboratories and, to be blunt, the insatiable appetite of the laboratories for federal funds, have shielded them from any real competition from other forms of dissemination and technical assistance. As a result, they have become entrenched institutions whose primary goal seems to be self-perpetuation.[72]

Major Owens (D-NY), Chairman of the Subcommittee on Select Education, shared some of Finn's reservations about the work of the labs and centers, but he questioned why OERI did not redirect the agenda and activities of the labs to be more productive and useful. When Finn failed to answer Owens satisfactorily, Milt Goldberg, the Director of PIP, stepped forward and the exchange between Goldberg and Owens illuminates the issue of OERI control over the direction of the labs.

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[72] U.S. Congress, House, Subcommittee on Select Education, Oversight Hearings on the Office of Educational Research and Improvement [OERI]. 100th Congress, 2nd Session (House Document, Serial No. 100-77: Washington, DC: U.S. Government Printing Office, 1988), p. 171.

> Mr. Goldberg ....Congressman Owens, there is a major difference in agenda setting between the labs and the centers, and that is that the lab agendas are set by their governing boards. We required, in the RFP's that were issued in 1985, that the laboratories establish governing boards that represent the major constituents in their regions, and that those governing boards set the work agendas for the laboratories. That differs quite considerably from the way the center agendas are set.
>
> Mr. Owens. Did you do that or did Congress do it? Did you have power that you gave away, or did the law require that you do it?
>
> Mr. Goldberg. No, the law did not require it. The Government did that. I mean, the administration did that.
>
> Mr. Owens. So in your regulations you gave away that power?
>
> Mr. Goldberg. That's right.[73]

The growing skepticism and overt public hostility to the labs within OERI dissipated to a large degree when Cross replaced Finn as the Assistant Secretary in 1989. Having worked with the labs as chairman of the Laboratory Review Panel and having been employed previously by the Subcommittee on Select Education, Cross accepted the fact that the labs would continue to be funded and sought to make modest improvements in their activities--particularly by expanding what the labs and centers did in terms of dissemination. No radical changes in either the direction or the management of the labs were envisioned.[74]

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[73] U.S. Congress, House, Subcommittee on Select Education, Oversight Hearings on the Office of Educational Research and Improvement, p. 244.

The National Academy of Sciences was funded to undertake a broad review of OERI and the legislative reauthorization of OERI was pending. Therefore, it was decided to make only minor changes in 1990 RFP since any larger alterations in the laboratory programs were expected to take into account the results from the National Academy study as well as from the directives in the reauthorization legislation. A number of small but significant changes in the 1990 RFP were introduced such as reducing the disparities in regional funding, focusing the mission of the labs on "at-risk" students, serving small rural schools, emphasizing early childhood education, and allowing for greater flexibility in the delivery of services. Whereas the 1985 RFP stated that the amount of money spent on applied research should be approximately one-half of that spent on assistance, the 1990 RFP permitted labs greater freedom in determining the appropriate mixture of expenditures on these tasks.[75]

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[74] Just before Cross became the Assistant Secretary, as chairman of the Laboratory Review Panel he submitted a final set of recommendations for the 1990 RFP for labs. Most of the recommendations had already been made in the 1987 report of that Panel. Many of the recommendations by the Panel were used in the writing of the 1990 RFPs. Christopher T. Cross, et al., "Report of the Laboratory Review Panel on the Pending Laboratory Recompetition," Office of Educational Research and Improvement (April 28, 1989).

Despite efforts to increase the amount of competition for the labs, only 11 eligible proposals were received for the 10 regions (one other application was ruled ineligible because it was received after the deadline). Eight of the existing 9 labs were refunded (but not the one from the Southeastern Region which lost to the single competitor) and a new lab was created for the Pacific area. Interestingly, two of the 9 non-contested lab proposals were judged sufficiently weak and problematic by the panels that a third review was requested for those two lab proposals.

II. Assessment of the Laboratories Today

As with the analysis of the R&D centers, due to time constraints it was necessary to look at a sample of the labs. Five of the current 10 labs were examined in detail:

1. Regional Laboratory for Educational Improvement of the Northeast and Islands (primary site at Andover, Massachusetts) [NE/I--also will be cited as the Northeast Lab].
2. Southwest Educational Development Laboratory (primary site at Austin, Texas) [SEDL--also will be cited as Southwest

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[75] For an analysis of the changes in the 1990 RFP, see Charles Stalford, "Conduct of the 1990 Laboratory Competition," Office of Educational Research and Improvement (June 1991).

Lab].

3. Mid-continent Regional Educational Laboratory (primary site at Aurora, Colorado) [McREL--also will be cited as Mid-continent Lab].

4. Northwest Regional Laboratory (primary site at Portland, Oregon) [NWREL--also will be cited as the Northwest Lab].

5. Far West Laboratory for Educational Research and Development (primary site at San Francisco, California) [FWL--also will be cited as the Far West Lab].

The five labs to be investigated were suggested by the staff of the Educational Networks Division (END) of the Programs for the Improvement of Practice (PIP). The labs selected were intended to exemplify the current range and variety of research and development activities, but these institutions are not necessarily representative of the other five labs which were not studied.[76] Indeed, compared to the R&D centers the labs exhibit a much greater amount of diversity amongst themselves and therefore make it more difficult to generalize about the system as a whole from any particular sample of them. On the other hand, by looking at 5 of the 10 labs rather than 5 of the current 23 centers, the proportion of the total number of institutions covered is much greater.

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[76] Since it was important to look at labs which had produced a considerable amount of research since 1985, it excluded the newly established Pacific Region Educational Laboratory (PREL) and the SouthEastern Region Vision for Education (SERVE). The five labs investigated had a slightly larger budget than those that were not studied. The average budget for FY92 for the five labs studied was $3.7 million while that for the five other labs was $3.3 million--in large part due to the relatively small amount of funding for the Pacific Region Educational Laboratory (PREL) [$1.6 million per year].

The main focus of this analysis of the labs is on the quality of their research and development work. Since the labs engage in a wider variety of activities than the centers, it was sometimes difficult to decide what was appropriate for this investigation. One guiding principle was to look particularly at all of the task 3 activities which encompass the applied research and development efforts of the labs.[77] Other research-related work, such as lab efforts to analyze a region's needs or to evaluate their own work, were also considered as well as any similar undertakings in their special initiatives (e.g. early childhood projects or rural education activities). Moreover, any other materials or activities identified as research-related by the staff of the labs were analyzed. Because the emphasis was on the research-related activities and capabilities of the labs in the broadest sense, relevant lab work done with non-OERI funding and suggested by the staff of the labs was also investigated. Thus, some of the development work at the Mid-continent lab was analyzed even though it is no longer being financed by OERI.

As with the analysis of the centers, all of the deliverables since 1985 from the five labs available from the staff at END were examined--including the published and unpublished research-related materials. Since past deliverables from two of the five labs were no longer maintained in END, it was necessary to reassemble those items from the labs. Due to a shortage of space at OERI when there is a change in institutional liaisons, sometimes some of the old deliverables were discarded.[78] The budgets of the labs were analyzed as well as their proposals for funding for 1985 and 1990. The written comments of the reviewers of these proposals as well as the communications from any internal or external evaluators of the labs was examined. The exchanges between the lab monitors and their contractors were also considered. All five labs were visited which provided an excellent opportunity to tour the facilities and meet with the staff.[79] Each of the END institutional liaisons was interviewed several times and the frequent attendance and participation at the weekly PIP lab team meetings was invaluable. Written comments from several of the lab directors about the draft report were quite helpful. Finally, two meetings with all of the lab directors were held to discuss this report--including a meeting on April 7, 1993 after the labs had ample opportunity to review a draft of the document.

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[77] Task 3 included the applied research and development activities for the period FY91-FY95. Previously, these items had been included under task 4 for FY86-FY90 and were examined as well.

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[78] The products produced by the labs and centers are now being deposited in the U.S. Department of Education Library so that in the future anyone will be able to obtain them from that institution.

[79] The Northwest Lab was visited on August 31, 1992; the Far West Lab on September 1-2; the Northeast Lab on September 16; the Mid-continent Lab on September 28; and the Southwest Lab on September 29. While the agenda for these meetings varied somewhat from lab to lab, most of the time was devoted to meeting with the staff primarily responsible for the applied research, development, and evaluation activities. In addition, considerable time was spent with the directors of the labs and their executive committees and in some cases I had a discussion with all of the staff in a large meeting.

A. Distribution of Research-Related Activities of Labs

As we have seen in the previous section, labs in the 1960s and 1970s were expected to spend a large proportion of their funds on applied research or development activities. With the gradual elimination of large-scale curriculum development projects in the late 1970s and early 1980s and the relative de-emphasis of research-related activities in the 1985 and 1990 lab competitions, the role of applied research and development in the labs has diminished. Indeed, some knowledgeable individuals initially wondered whether an analysis of the labs was not a wasted effort since they perceived that little research-related or development activities were being done today.

Yet even a cursory glance at the budgets of the labs suggests that considerable funds still are being expended on just task 3--the conduct of applied research and development. In FY92, the 10 labs spent approximately $7.8 million (current dollars) of OERI funds on applied research and development while the R&D centers spent only an estimated $14 million on all of their OERI-funded research activities. Moreover, more than one-fifth (22.2 percent) of the lab budgets were allocated to task 3. Or, if one subtracts the indirect costs and fees of the labs, task 3 makes up 28.5 percent of the remainder of the OERI funds to the labs. Only task 2, providing assistance to the regions, receives more funding (32.9

percent of the total budget). Thus, while the amount and percentage of OERI funds to the labs for applied research and development may have declined over time, it still remains a major and important expenditure for them.[80]

The percentage of the total budget money expended on task 3 varies greatly among the labs for FY92--ranging from 12.2 percent at the Pacific Lab (PREL) to 33.0 percent at the Northwest Lab (NWREL) (see figure 3). Overall, the five labs investigated spent an average of 22.4 percent of their total budget on task 3 activities while the other five labs devoted an average of 22.0 percent of their total budget.[81]

Insert figure 3

It is difficult to compare the direct and indirect costs of the labs and centers because they do not always categorize and

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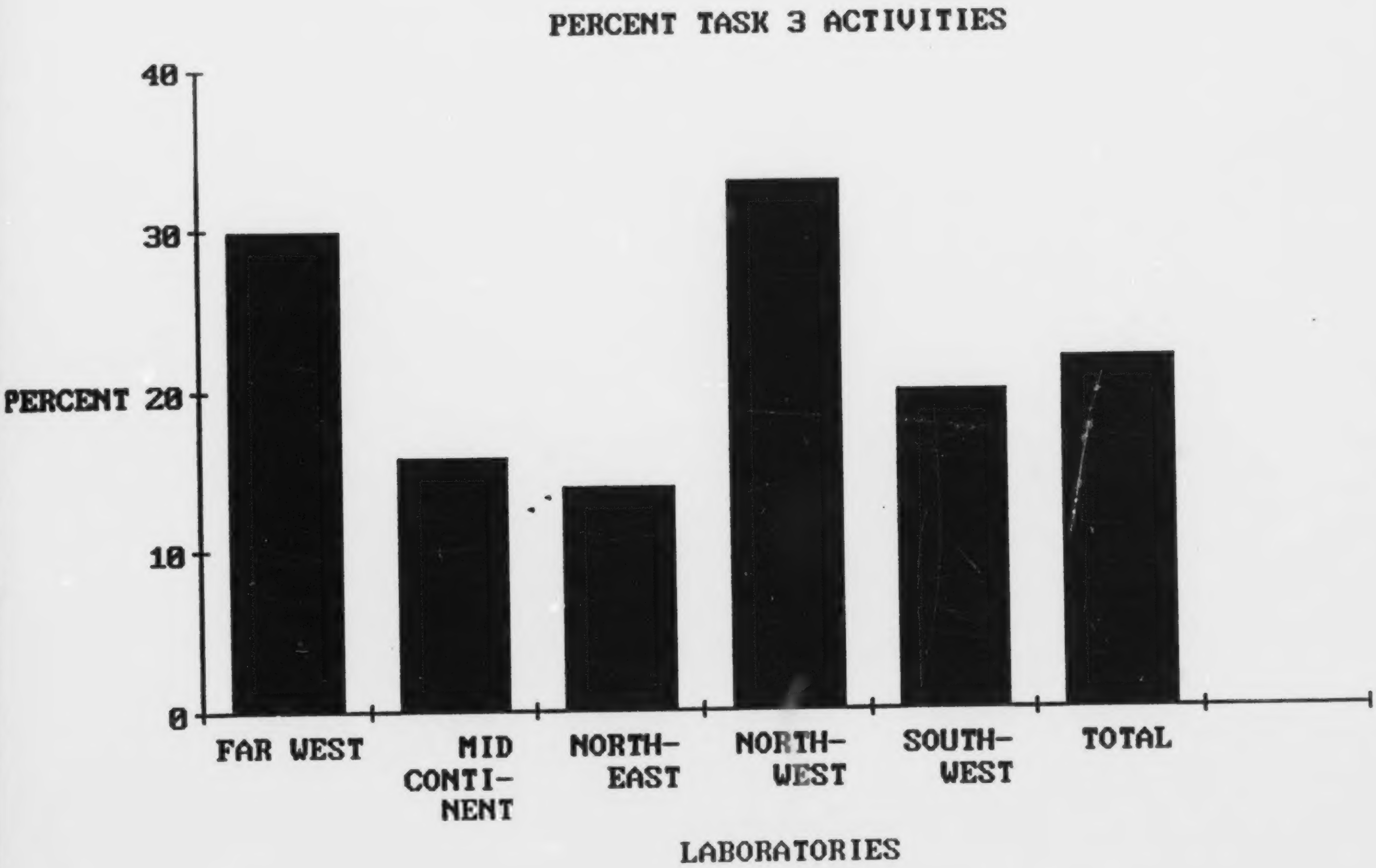
[80] For details on the FY92 budgets for the labs, see Charles Stalford, "Analysis of Laboratory Budgets," Memo, Office of Educational Research and Improvement (May 21, 1992). The FY92 budget includes an additional $4.16 million Congressionally appropriated for the labs for the specific purpose of collaborating on a math and science initiative (under task four). If the $4.16 million were eliminated from the overall FY92 lab budget, then task 3 would be 25.2 percent of the total lab budget or 33.6 percent of the total lab budget not including indirect costs and fees.

[81] Some have argued that the labs have little control over how much money is spent on research and development because of the directives from OERI. While OERI's de-emphasis of research and development certainly has played an important role in how the labs have been able to respond to this area, the sizable variation among the labs on the percentage of funds spent on task 3 suggests that the labs maintain considerable discretion in the allocation of their funds.

FIGURE 3


PERCENT TASK 3 ACTIVITIES
40
30
PERCENT 20
10
0
FAR WEST
MID CONTI- NENT
NORTH- EAST
NORTH- WEST
SOUTH- WEST
TOTAL
LABORATORIES

subdivide their budgets in an identical manner. Nevertheless, it is interesting to observe that the indirect costs of the five centers studied were 27.6 percent while the indirect costs and fees for the 10 labs were 22.1 percent. Given the inexactitude of the figures, one should not place too much reliance on the specific differences, but it may be that the labs may spend slightly less on indirect costs and fees than the centers. The entire question of just what it costs OERI comparatively in indirect costs and fees to purchase services and products from the labs and centers warrants further investigation.

Finally, we can look at the ability of the labs to obtain additional outside funding for their institutions. In recent years, OERI has been encouraging the labs to seek additional outside funding to supplement their budgets. This campaign appears to have succeeded as only one-half of the lab funding now comes from the regular OERI-lab budget. But there are great differences among the labs in their ability to garner outside funding. Two of the labs receive only about one-fourth of their monies from the OERI-lab budget, while three of them get about ninety percent or more from that source. Of the five labs investigated in this study, only 39.7 percent of their funds came from OERI-lab money compared to 73.6 percent of the funds for the other five institutions.[82]

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[82] For information on the outside funding for the labs, see Stalford, "Analysis of Laboratory Budgets." Since that document did not have data on the outside funding for SEDL, that information was obtained directly from that lab (65 percent of their FY92 funds were from non-OERI-lab monies). Much of the outside funds for the

There is some disagreement within OERI on the desirability of labs to seek more non-OERI funding. In the late 1960s and early 1970s, labs sometimes were discouraged from seeking outside funding as this might divert their attention and energies from the needs of NIE. During the 1980s, however, the emphasis shifted toward encouraging outside funding--especially as it appeared to some that federal support of the labs might be terminated altogether. Given the changing attitudes toward outside funding by NIE/OERI over time, perhaps it is time for this agency to reconsider this issue once again.

Since so much of the lab orientation and direction already is being set by the regional governing boards, the acquisition of non-OERI funding does not necessarily pose a problem at this time. If more of the funds and activities of the labs are focused on national priorities under the guidance of OERI, then the acceptance of large amounts on non-OERI funds potentially might pose a problem for the allocation of lab staff and resources. On the other hand, additional future funding might allow the labs to make more efficient and effective use of the OERI monies through the cost-sharing of projects and the use of federal education to build upon work initially sponsored by others. Therefore, it is unlikely that there is any simple formula or rule that should be followed in regard to an ideal overall portfolio of lab funding. Perhaps the important point to bear in mind is that OERI should always strive

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labs are from other sources in the U.S. Department of Education (including some funds administered by other programs within OERI).

to make sure that the federal interests in lab activities are protected even as these institutions simultaneously respond to the needs of their other funders.

B. Research Topics of Labs

We have already seen in the previous section that a considerable portion of lab funds were spent on task 3--applied research and development. Another perspective on overall lab expenditures is provided by looking at the distribution of their activities as recorded by the labs on OERI's Project Input Forms (or PMIS forms) for FY92.[83] According to these forms, activities were subdivided into seven categories: (1) policy studies, (2) evaluation, (3) basic research, (4) applied research, (5) development, (6) statistics, and (7) dissemination. Unfortunately, compared to similar data provided by the centers, the labs overall do not appear to have been as careful and accurate in returning this information to OERI. Nevertheless, it is worth glancing at the PMIS returns to obtain a rough idea of the self-reported activities of the labs.

Although the quality of the data from the PMIS forms leaves much to be desired in terms of categorization and accuracy, the overall contours of the five labs' description of their own activities are instructive.[84] According to the PMIS forms for the five labs, these institutions devote considerable funds and energy to dissemination. Approximately 32.6 percent of their total OERI funds is spent on dissemination. Unfortunately, PMIS does not provide more detailed information about the nature of that dissemination, but in the case of the labs it appears to consist mainly of directly providing information to clients as well as of offering technical assistance to them.[85]

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[83] The Project Input Forms are part of the OERI Project Management-Information System (PMIS). Therefore, sometimes these forms will be referred to simply as PMIS forms.

Using the information from PMIS on the distribution of activities (but excluding dissemination which has been discussed above), we can see that labs devote very little effort to basic research (3.1 percent), evaluation (10.2 percent), or statistics (1.2 percent). While according to the PMIS forms policy studies also receive relatively little attention (12.7 percent), that figure may underestimate this activity because some of the policy analyses appear to have been placed under the applied research category as well (see figure 4).

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[84] The categories of the PMIS forms might have been improved if there had been added an administrative/managerial subgroup and if some of the current categories such as development had been defined more precisely or subdivided further to make some useful distinctions.

For the purposes of this analysis, it seemed appropriate to remove the indirect costs and the fees from each of the projects in order to make the results more similar across the labs and more comparable to the analysis of the centers. Moreover, since most of Task 1 was related to managerial and administrative activities, it was also removed from the analysis whenever possible. It should also be noted that the FY92 PMIS forms contained information from Task 6 (Early Childhood Education Linkages) even though this was actually funded by DHHS through OERI but the FY92 PMIS information did not include any data from the $416,000 supplement for each of the labs for collaboration on math and science.

[85] While a considerable portion of lab dissemination activities are providing technical assistance to clients, not all service to clients (task 2) are categorized as dissemination by the labs. For example, the Mid-continent Lab (McREL was one of the few labs to fill out its PMIS forms by tasks) subdivides task two as 10 percent policy studies, 60 percent applied research, and 30 percent dissemination. Overall, according to PMIS, 85 percent of McREL's total dissemination budget was expended under task 2.

Insert figure 4

The two major lab activities according to the PMIS forms are applied research (27.7 percent) and development (45.1 percent). Together they account for almost three-fourths of lab research and development-related activities. Compared to similar data for the centers, the labs proportionately were more likely to spend funds on development while the centers focused more on applied research, evaluation, basic research, and statistics (see figure 5). They spent about equal proportions on policy studies (though the labs probably would have a higher proportion here if the policy studies categorized under applied research were also included).[86]

Insert figure 5

One of the problems with the use of the PMIS categories is

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[86] The comparisons of the distribution of expenditures between the centers and labs must be seen as very crude and inexact--even though both institutions use the same PMIS forms. For example, the centers exclude most of their management expenses (beyond the indirect costs) from their PMIS breakdowns while the labs probably still include some of them. As a result, while comparisons of relative types of expenditures between the labs and centers are interesting and useful, they should be seen as only rough approximations to their actual expenditures.

FIGURE 4

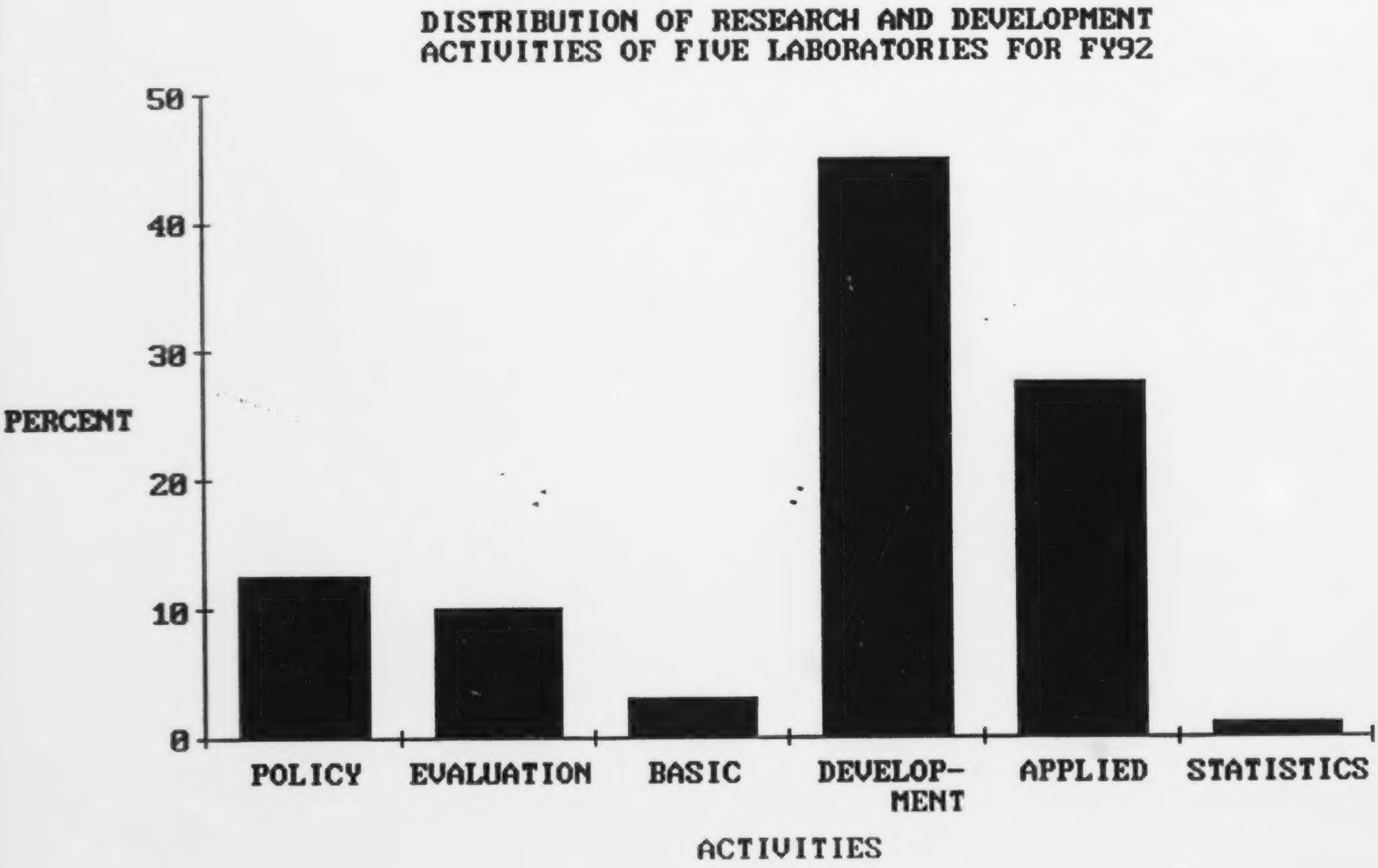
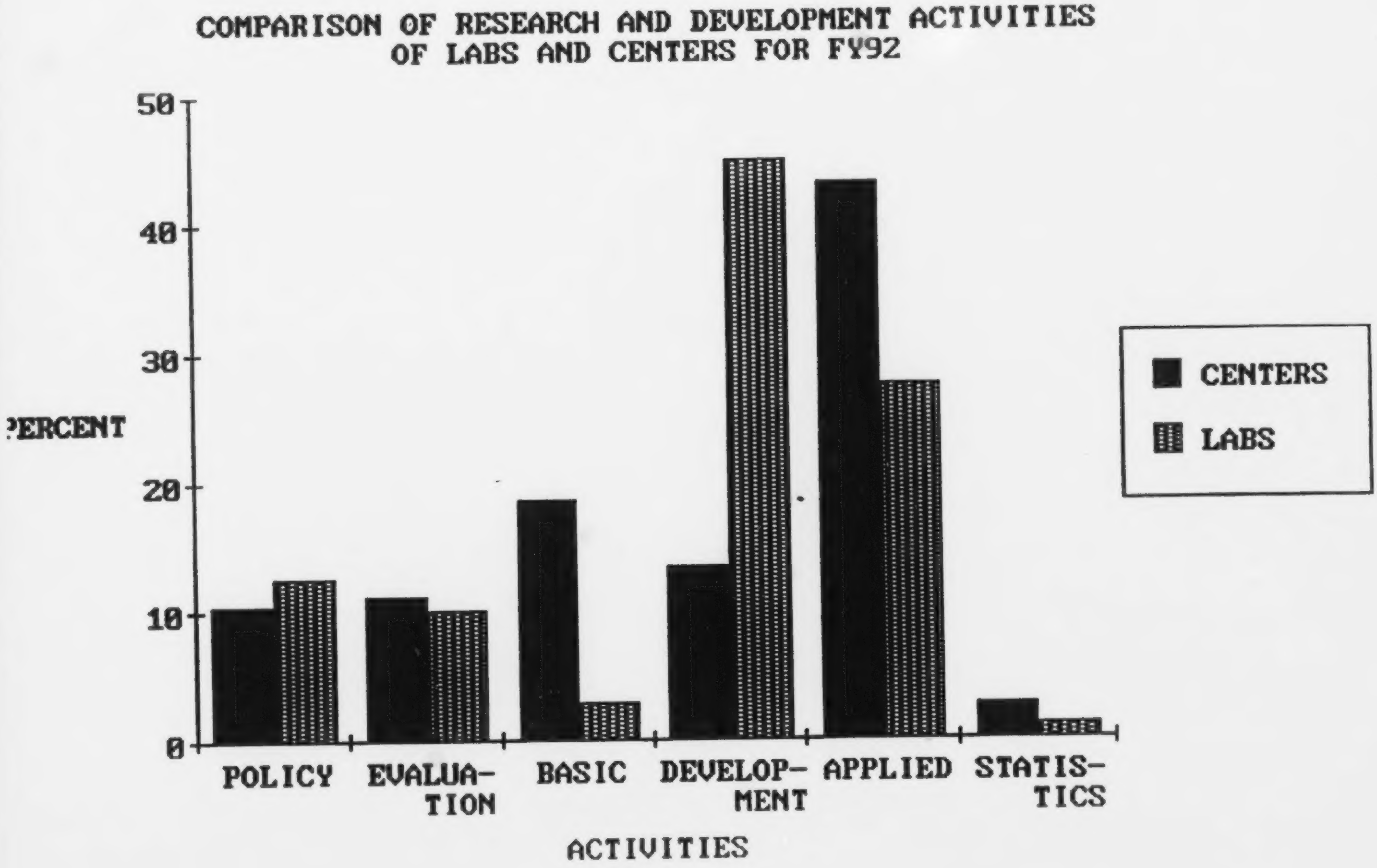

DISTRIBUTION OF RESEARCH AND DEVELOPMENT ACTIVITIES OF FIVE LABORATORIES FOR FY92
50
40
30
20
10
0
PERCENT
POLICY
EVALUATION
BASIC
DEVELOP- MENT
APPLIED
STATISTICS
ACTIVITIES

FIGURE 5


COMPARISON OF RESEARCH AND DEVELOPMENT ACTIVITIES
OF LABS AND CENTERS FOR FY92
PERCENT
0
10
20
30
40
50
POLICY
EVALUA-TION
BASIC
DEVELOP-MENT
APPLIED
STATIS-TICS
ACTIVITIES
CENTERS
LABS

that they are often employed for rather different purposes by the respondents. For example, while sometimes applied research at the labs refers to efforts to conduct original research on some specific problem, at other times it refers to activities to synthesize existing research or to write policy papers based upon existing research. Indeed, much of the applied research done in the labs is really the synthesis or use of existing applied or basic research rather than the support of original research.

In the previous essay we observed how many of the R&D centers relied heavily upon case studies for their applied research investigations. We also discussed the strengths and weaknesses of the use of case studies. While individual case studies can be an effective means of initially exploring some problem or of later looking at something in more depth, one can only draw limited conclusions from their findings since they are not representative of the population as a whole. Moreover, unless individual case studies are placed in some kind of contextual or comparative framework, it is usually difficult to draw any meaningful research or policy inferences from them.[87]

The labs frequently relied on case studies as a means of conducting their applied research. Often this meant looking at a particular institution or process that was relatively isolated from their other research or development endeavors and thereby limited in its overall usefulness and generalizability. For example, the Northwest Lab analyzed the grading practices of 15 teachers within a particular high school and properly acknowledged the limitations of generalizing the findings from this single case study.[88]

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[87] For discussions of the use of case studies, see Charles C. Ragin and Howard S. Becker, eds., What is a Case? Exploring the Foundations of Social Inquiry (Cambridge: Cambridge University Press, 1992); Joe R. Feagin, Anthony M. Orum, and Gideon Sjoberg, eds., A Case for the Case Study (Chapel Hill, NC: University of North Carolina Press, 1991).

Occasionally efforts were made to embed case studies as part of a larger research effort. The Northeast Lab, for example, was one of the primary sponsors in the 1980s of studies which sought to understand and to improve urban high schools. The Northeast Lab commissioned a telephone survey of 178 urban high schools which had introduced some significant educational innovation. It also sponsored five indepth, qualitative case studies of innovative urban high schools or junior high schools (in Boston, Cleveland, Los Angeles, New Jersey, and New York City). Based upon the results from the survey and the five case studies, explanations were offered on why and how innovations introduced into the public secondary schools in urban communities succeeded or failed in helping to improve student learning outcomes.[89]

Similarly, the Southwest Lab (SEDL) sought to improve rural education by working with a small, rural school serving disadvantaged students in five different states (Arkansas, Louisiana, New Mexico, Oklahoma and Texas). While not all of these demonstration sites used identical achievement tests or employed the same set of contextual indicators, an effort was made to compare the five case studies whenever possible.[90]

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[88] Richard J. Stiggins, Philip Griswold, and David Frisbie, "Inside High School Grading Practices," Northwest Regional Educational Laboratory (September 1990).

[89] For a summary and detailed discussion of this project, see Karen Seashore Louis and Matthew B. Miles, Improving the Urban High School: What Works and Why (New York: Teachers College Press, 1990). Although the Northeast Lab provided the primary funding for this project, the North Central Lab and the Far West Lab also contributed some assistance.

Much of the work categorized as applied research by the labs consists of syntheses of existing research or of writing policy papers which incorporate relevant research findings.[91] The topics for these papers range widely from an understanding of language development and education to concern about school-wide and classroom discipline.[92] However, there is sometimes considerable duplication among the laboratories in their research syntheses and policy papers. For example, many of the labs, often as part of their task 6 activities, have produced research summaries or policy papers about early childhood education. While some of them do have a particular regional slant or orientation, many of them easily might have been equally applicable and useful in another part of the country.[93]

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[90] For a description and analysis of this project, see Deborah V. Jolly, Shirley M. Hord, and Marianne Vaughn, "Developing Indicators of Educational Success: The Road to Improvement in Five Schools," Paper presented at the American Educational Research Association Annual Meeting, Boston, April 1990.

[91] Using task 3 funds for supporting research syntheses was explicitly sanctioned and encouraged in the Request for Proposal (RFP) for labs in 1990. One of the five illustrations of permissible activities under task 3 was "synthesizing R&D, or otherwise contributing to knowledge about the improvement of schooling, particularly for at-risk populations." Programs for Improvement of Practice, OERI, "Regional Educational Laboratory Request for Proposal" (Washington, DC: U.S. Department of Education, 1990), p. 24.

[92] Nancy Faires Conklin, Carole Hunt, and Laura Walkush, "Language Development: A Base for Educational Policy Planning," Northwest Regional Laboratory (July 1990); Kathleen Cotton, "Schoolwide and Classroom Discipline," Northwest Regional Educational Laboratory (October 1990).

OERI and the labs should re-examine how research syntheses and policy analyses are produced and distributed. Sometimes the labs commission their own research or policy papers. At other times they use the one-page summaries developed by the Council for Educational Development and Research (CEDaR).[94] Occasionally the labs also use directly materials developed or funded by OERI.

There appears to be considerable confusion, duplication, and waste in how research syntheses and policy papers are developed at OERI and the labs and centers. OERI already sponsors several different activities in this area besides funding the extensive work of the labs and centers. The Office of Research (OR) has initiated an Education Research Guide series which provides a four-page summary of topics such as cooperative learning, performance assessment, and reading recovery. The National Center for Education Statistics (NCES) provides publications such as NAEPfacts and Education Research Report. In addition, NCES has also begun a two-page Issue Brief series. Finally, the Educational Resources Information Center (ERIC) sponsors 16 ERIC Clearinghouses which develop voluminous short research and policy syntheses, bibliographies, digests, and books for parents, researchers, and practitioners. Therefore, before an individual lab or center commissions a research synthesis or policy paper, it may be prudent to check to see whether a roughly comparable product already exists. Moreover, OERI should co-ordinate its own publication activities and perhaps an arrangement sometimes could be developed whereby topics that are of special interest to the labs or centers might become one of the priorities for OERI's other ongoing activities.[95]

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[93] Janet Jewett, "Effective Strategies for School-based Early Childhood Centers," Northwest Regional Educational Laboratory (December 1991); J. Ronald Lally and Peter L. Mangione, "Early Intervention Research: Building on Lessons from the 60's and 70's For Programs in the 90's," Paper presented at Conference on New Directions in Child and Family Research: Shaping Head Start in the Nineties, Sausalito, CA, June 1991; Kenneth H. Hansen, "Early Childhood Education: Policy Issues," Northwest Regional Educational Laboratory (May 1988); McREL, "Early Childhood Education," Policy Notes, 4, No. 1 (Spring 1990).

[94] The labs, using OERI funds, subcontract with CEDaR for the production of these one-page summaries. The labs then disseminate the CEDaR summaries to their regional clients (sometimes adding some of their own research/policy summaries), After receiving research and policy reports from the labs, centers, and other scholars or organizations, CEDaR evaluates them for quality and relevancy in deciding which ones to use for their one-page summaries. While many of the OERI-funded R&D centers send their materials to CEDaR, some have refused to participate--perhaps not realizing that this is an OERI-funded activity.

After consulting the existing stock of research syntheses or policy analyses, if a need for more work still exists (or if the existing products are deemed inappropriate or inadequate) a lab or center might want to commission additional papers. In some situations, however, the lab or center still might find it more economical and effective to persuade some other OERI-funded group to undertake that work because their staff may be more experienced and knowledgeable in this area. In any case, the entire issue of producing and disseminating research syntheses and policy analyses needs to be thoroughly reconsidered.

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[95] When Christopher Cross was the Assistant Secretary, plans were being made to co-ordinate all of the publication activities undertaken or funded by OERI. Unfortunately, those plans never materialized and the entire co-odinating effort was subsequently abandoned.

While more than one out of every four lab dollars is spent on development, there is little agreement on what that term means. Sometimes the category "development" is used to cover activities such as task 1--the establishment of effective governance, management and planning systems.[96] At other times the term "development" is used to describe the creation of classroom materials and the training of teachers and professionals. Only rarely was the word "development" associated with the more classic and traditional definition--the repeated and systematic testing and improvement of some education product or curriculum.

Given the common usage of the term "development", it is not surprising that the labs employed the concept so broadly. Nor is it necessarily bad as long as everyone understands exactly what is meant when someone uses that term. Unfortunately, there is so much confusion and uncertainty surrounding the word "development" today that by itself the word is not an effective means of communicating what is being done.

When the labs were created in the mid-1960s, the Gardner Task Force and others assumed that these institutions would play a major role in the development of education curricula and materials. The Gardner Task Force envisioned development in the more traditional sense--the use of iterative and systematic testing to improve curricula or other educational products using large-scale field studies. Indeed, the Gardner Task Force insisted that all of the labs have attached to them experimental schools as one element of systematically assessing and improving their products.[97]

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[96] For example, the Mid-continent Lab (McREL) subdivided all of its activities for the PMIS according to the six tasks. For task one they designated it as 100 percent development.

Many of the labs in the 1960s and early 1970s did employ this concept of development. For example, the Southwest Lab (SEDL) developed a short handbook which described the development process for educational products. They broadly defined an educational product to "comprise instructional materials, hardware, or software; it can comprise a technique or a process; or it can comprise any combination of the above."[98]

SEDL then described six stages of the developmental cycle: (1) context analysis, (2) conceptual design, (3) product design, (4) pilot test, (5) field test, and (6) marketing and diffusion. Educational products did not have to proceed linearly through the stages (products adapted from elsewhere usually were introduced in a stage other than the first one). SEDL's product development model was not inflexible and could vary from one product to the next. But throughout the entire process, the emphasis was on continuing evaluation and testing of the educational product. A product was pilot tested usually "under controlled conditions in selected schools which are in proximity to the Laboratory and...conducted by the originators of the test products."[99] Then the product was subjected to large-scale field testing "to determine the ultimate utility and viability of the system under test, and to facilitate marketing and diffusion of the system by measuring its effectiveness, cost, endurance, and potential and by ascertaining the effects upon the system of the many variables existing in a natural environment."[100]

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[97] Gardner, "Report of the President's Task Force on Education."

[98] Robert Randall et al., "A Developmental Process Adopted by the Southwest Educational Development Laboratory, July 14, 1970," Southwest Educational Development Laboratory (1970), p. 4.

SEDL was not alone among the early labs in its interest in the systematic development of educational products. Most of the developmental energies in the labs in the 1960s and 1970s were devoted to improving the curriculum. As was discussed previously, NIE opposed large-scale curriculum development in the late-1970s and OERI explicitly prohibited it in the Requests for Proposals (RFPs) for labs in 1985 and 1990. Nevertheless, a few of the labs managed to continue some curriculum development--though at least one of the labs felt it was prudent to create a separate, subsidiary corporation in order not to violate OERI's prohibition against large-scale curriculum development activities. Thus, the Mid-continent Lab (McREL) used OERI funds to support the research phases of a major curriculum project and then completed the developmental phase of this activity using their other corporation's monies.[101]

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[99] Randall et al., "A Developmental Process," p. 25.

[100] Randall et al., "A Development Process", p. 29.

If a few large-scale curriculum development projects have been continued at the labs using non-OERI funds, most of the labs have turned to smaller projects and used less systematic ways of assessing and improving their products. The Northwest Lab, for example, has been developing its Onward to Excellence Program for over a decade, but has never undertaken an extensive and rigorous large-scale field test of the project. Instead, the Onward to Excellence Program utilizes the experiences of teachers and other professionals who have used the program to make any adjustments and improvements.[102]

According to the guidelines in the RFPs for the 1985 and 1990 lab competitions, the expectation was that labs would undertake only short-term applied research or development projects (ones that could be completed within the 5-year contract period). There was no emphasis placed on developing large-scale ongoing cumulative projects--in fact such efforts implicitly seem to have been discouraged. Therefore, it is not surprising that many of the applied research or development projects were small and often unrelated investigations.

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[101] Robert J. Marzono, et al., Dimensions of Thinking: A Framework for Curriculum and Instruction ((Alexandria, VA: Association for Supervision and Curriculum Development, 1988); Robert J. Marzano, A Different Kind of Classroom: Teaching with Dimensions of Learning (Alexandria, VA: Association for Supervision and Curriculum Development, 1992); Robert J. Marzano, et al., Implementing Dimensions of Learning (Alexandria, VA: Association for Supervision and Curriculum Development, 1992).

[102] For a discussion of the Onward to Excellence Program, see Robert E. Blum, Kim O. Yap, and Jocelyn A. Butler, "Onward to Excellence Impact Study," Paper presented at the American Educational Research Association Annual Meeting, San Francisco, April 1992.

The regional focus of the applied research also limited the ability or willingness of some of the labs to use OERI funds to investigate questions at sites outside their immediate geographic area. For example, the Northeast Lab obtained a sizable grant from Apple Computer Corporation to study the impact of computers in the classroom. When the funding for this interesting and important project abruptly and unexpectedly ended, the Northeast Lab was unwilling to use OERI-funds to complete this study because the actual classroom sites for the project were outside their region.[103] Others such as the Far West Lab, however, do not feel quite as territorially bound by the confines of their region and are more willing to operate on a national basis.[104]

Although the present labs are about one-fourth smaller in constant dollars than in the early 1970s, the reduction in funding does not really explain the small size of most of their applied research and development projects. Once we eliminate the indirect costs and fees, the administrative expenses, and dissemination expenditures, the average amount of money directly available for applied research and development (task 3) for each of the labs in FY92 is substantially more than is available to most of the individual R&D centers. But overall the labs choose to spend less of their task 3 funds on original applied research and development than did most of the R&D centers. Moreover, even given the small amount of money that the labs devote to original applied research and development, they generally also prefer to spread the limited funds among several small-scale and short-term projects (much like many of the R&D centers).

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[103] For a description and discussion of the project on computers in the classroom, see Diane Kell, Glen Harvey, and Nancy Gadzuk Drexler, "Educational Technology and the Restructuring Movement: Lessons from Research on Computers in Classrooms," Paper presented at the American Educational Research Association Annual Meeting, 1990.

[104] For example, the Far West Lab undertook a multi-site case study evaluation of 24 Chapter I schools throughout the country with funding from OERI (but not from OERI's regional lab budget). Brian Rowan et al., "The Design and Implementation of Chapter 1 Instructional Services: A Study of 24 Schools," Far West Lab (November 1986); Brian Rowan and Larry F. Guthries, "The Quality of Chapter 1 Instruction: Results from a Study of 24 Schools," Far West Labs (March 1988).

C. Quality of the Applied Research and Development

Almost any discussion of the quality of applied research and development produced by the labs evokes strong feelings--often by those who are not personally very familiar with much of the work at those institutions. Many academics and policy makers are particularly scornful of the quality of the research and development at the labs and see them as second-rate institutions compared to the R&D centers or the funding of individual researchers. The strong antipathy towards the quality of the research and development produced by the labs even extends to some OERI staff and leaders (though not among most of the END staff who actually monitor the work of the labs). Moreover, there is a tendency among many critics of the labs simply to issue a blanket condemnation of the research and development of the labs--in part because of the widespread perception that the congressional earmarking of the funds for these institutions has come directly at the expense of field-initiated research.

Part of the skepticism of the quality of the work of the labs may be a self-fulfilling prophecy because of OERI directives in the 1985 and 1990 lab competitions discouraged long-term applied research or development projects and emphasized providing immediate technical assistance to clients. Therefore, it should not be entirely surprising that many policy makers and academics now have difficulty in finding original lab research or development projects worth praising.

Nevertheless, some of the labs since 1985 have produced some first-rate applied research and development. Particularly impressive has been the work at the Far West Lab. Building upon their long tradition of excellent research, the Far West Lab continues to produce some of the more innovative and interesting applied lab research and development today--often funded with non-OERI monies.[105]

The Far West Lab specializes in fairly sophisticated and thoughtful policy analyses. Using funds from both OERI and the

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[105] Under pressure from NIE (and its successor, OERI) in the early 1980s, the Far West Lab moved away from its emphasis on basic research to applied and developmental work. There was a significant shift in staffing away from the more academic and pure research to more applied and developmental work. While the current staff are less oriented toward academic and basic research than their predecessors, many of them appear to be relatively well-trained and sophisticated in their methodological and statistical skills.

Utah State Office of Education, they evaluated the Utah Career Ladder System for elementary and secondary public school teachers. The state's 40 superintendents and school board presidents were interviewed by telephone. Surveys were mailed to all of the principals in the state as well as to a random sample of 1500 teachers.[106] They also analyzed the teacher salary distribution in 10 districts and investigated the implementation of the Career Ladder System in 12 districts. Unfortunately, they did not collect any data on changes in student outcomes; but on the basis of their interviews with principals and teachers, they concluded that "the policy is powerfully and positively changing both the teaching profession and the ways schools are organized to teach students. Utah's Career Ladder System is a model that deserves national attention."[107]

Similarly, the Far West Lab analyzed the impact of the introduction of a computerized, self-paced math program (the so-called Rubin program) in five elementary schools and one middle schools. Using information from a five-year longitudinal study of the standardized math achievement scores of those students, they analyzed the scores of those who had been in the program for varying lengths of time. The results of this study provided only a lukewarm endorsement of the Rubin program. "[P]rimary students in the Rubin program did less well than their regular program counterparts during the first two years of implementation but...intermediate grade students did better. Growth rates were higher for students in the Rubin program for four years than students in the program for two years."[108]

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[106] The response rate for the mailed questionnaires to the principals and teachers was 68 percent and 63 percent respectively. Unfortunately, they did not try to ascertain what biases might have been introduced by this response rate. Mary Amsler, Douglas Mitchell, Linda Nelson, and Thomas Timar, "An Evaluation of the Utah Career Ladder System: Summary and Analysis of Policy Implications," Far West Laboratory for Educational Research and Development (January 1988), p. 3.

[107] Amsler, Mitchell, Nelson, and Timar, "An Evaluation of the Utah Career Ladder System," p. 2.

Finally, the Far West Lab sponsored one of the more sophisticated and indepth policy reviews of the relationship between class size and student learning. Based upon an extensive and careful review of the existing secondary literature, they concluded that "reducing class size has a substantial and cumulative effect on student learning," but that "the costs of class size reductions are enormous."[109] Using data from a large number of studies of class size, they found a curvilinear relationship between class size and achievement and then tried to develop a theoretical model to explain the pattern.[110]

None of the other four labs in this investigation produced the same overall quantity or quality of applied research and development as at the Far West Lab. Except for the Northwest Lab, the Far West Lab devoted more of its OERI funds on task 3 (and Northwest spent a larger proportion of its task 3 monies on dissemination rather than on applied research or development). Moreover, with some notable exceptions, most of the applied research produced at the other four labs was not as conceptually or methodologically rigorous or sophisticated as that prepared by the Far West Lab.

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[108] Robert B. Burns, "Longitudinal Analyses of Student Achievement in an Innovative Mathematics Program," Far West Laboratory for Educational Research and Development (July 1988).

[109] Douglas Mitchell, Cristi Carson, and Gary Badarak, "How Changing Class Size Affects Classrooms and Students," California Educational Research Cooperative (May 1989), pp. 67-68.

[110] Mitchell, Carson, and Badarak, "How Changing Class Size Affects Classrooms and Students," p. 68.

Yet there were several applied research or development projects at the other four labs which were praiseworthy. For example, the Northeast Regional Lab, using funds from the Apple Corporation, produced a useful assessment of the computer-based Apple Learning Series: Early Language (ALS-EL) in elementary classrooms.[111] The Southwest Regional Lab produced an important six-year longitudinal study of language and reading achievement in bilingual classrooms.[112] The Mid-continent Lab continues to do valuable development work in vocabulary instruction and curriculum frameworks.[113] And the Northwest Lab is doing a longitudinal analysis of Washington State's Early Childhood and Assistance

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[111] Glen Harvey, Diane Kell, and Nancy Gadzuk Drexler, "Research on Computers and Literacy Development in Primary Classrooms," Final Report, Regional Laboratory for Educational Improvement of the Northeast and Islands (July 1990).

[112] Betty J. Mace-Matluck, Wesley A. Hoover, and Robert C. Calfee, "Teaching Reading to Bilingual Children: A Longitudinal Study of Teaching and Learning in the Early Grades," National Association of Bilingual Educators Journal, 13, 3 (1989), 187-216.

[113] Robert J. Marzano and Jana S. Marzano, A Cluster Approach to Elementary Vocabulary Instruction (Newark, DE: International Reading Association, 1988); Marzano, et al., Dimensions of Thinking; Marzano, A Different Kind of Classroom; Marzano, et al., Implementing Dimensions of Learning.

Program.[114]

But there are also serious conceptual and statistical limitations of some of the work supported by the labs. Some of the applied research appears to be very preliminary and highly descriptive.[115] Major projects sometimes lack any clear research designs. The Northeast Lab launched an intensive Collaborative Action Research effort in three sites, but did not have an adequate research design for that large-scale and long-term undertaking.[116]

The statistical analyses of some of the studies are flawed and misleading. Thomas Owen and Carolyn Cohen investigated the attitudes and opinions of entry-level workers in four states: Hawaii, Idaho, Oregon, and Washington. Each of the states appears to have used a different strategy for sampling companies and workers and the overall completion rate was extremely low (20 percent for the workers and 29 percent for the companies). Moreover, the completion rates for the four states varied considerably. Yet the investigators simply combined the results from the four states without adjusting the data for the unequal return rates. Despite all of these shortcomings, they claim that the "data might also be used as a benchmark from which to measure change in future years."[117]

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[114] Child, Family, and Community Program, ECEAP 1991 Longitudinal Study and Annual Report: Washington State's Early Childhood Education and Assistance Program, Northwest Regional Educational Laboratory (1991).

[115] R. G. Schwab, Sylvia Hart-Landsberg, and Karen Reed Wikelund, "Implementation Strategies for Innovative Literacy Practices: A Regional Depiction," Northwest Regional Educational Laboratory (April 1991).

[116] For details of the Collaborative Action Research effort, see David P. Crandall, "Annual Report: 1 December 1990-30 November 1991," Regional Laboratory for Educational Improvement of the Northeast and Islands (December 1991). As of June 1993 the Northeast Lab still had not submitted any detailed research plans for their Collaborative Action Research project.

Similarly, McREL sent questionnaires to local public school superintendents in the seven states it serves. The overall response rate was only 40 percent and it varied among the states (ranging from 27 percent for Nebraska superintendents to 53 percent for Wyoming superintendents). Despite the considerable variation in response rates, the analysts simply grouped all of the returns together to get an overall regional profile--even though this meant that a state like Nebraska which had 27 percent of the region's superintendents only contributed 19 percent of the returned questionnaires. If there were no variation in answers to the questions by states, then this indiscriminate totalling of the responses would not affect the results. But often there were clear and sizable differences in the answers of the superintendents to the questions. As a result, the detailed tables in the McREL Policy Notes which show whether or not the answers from the superintendents from a particular state are statistically significantly higher or lower than the regional mean may be inaccurate if we recalculated the regional means based upon the questionnaires stratified by the rate of return. In any case, given the low and unequal response rate to the questionnaires, the analysts should have addressed these problems more adequately.[118]

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[117] Thomas Owens and Carolyn Cohen, "Northwest Entry-Level Worker Study," Northwest Regional Educational Laboratory (September 30, 1991).

Although the evaluation of programs (including their own) is an important part of the work of the labs, often these assessments were not well-designed. The Northwest Lab study of the impact of its interesting and important Onward to Excellence (OTE) Program could have been improved. The analysts did not explain why certain OTE programs were chosen in the impact study while others were not included.[119] Moreover, by looking indepth at only 10 of the more successful OTE programs, they could not ascertain why some of them succeeded and some of them failed. One might have also looked at some schools which did not join the OTE program in order to be able to see if any of the improvements in the OTE schools were partly the result of more general changes affecting all schools during those years. Finally, rather than only using a definition of "success" based on whether the program achieved one of its goals, the definition might have been expanded and made more standardized. Otherwise, OTE programs which set low goals might be defined as equally or even more "successful" than those programs which had set higher goals.[120]

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[118] McREL, "Status of Education in the McREL Region," Policy Notes, 4, No. 3 (Winter 1990).

[119] There were 625 schools in 1990 which participated in the Onward to Excellence (OTE) Program; 292 had been involved with OTE for at least two years and therefore were eligible for participation in this impact study. Of these, 163 were in the School Improvement Network Directory which became the initial database for this study. Naturally, one wonders what kind of biases might have been introduced by looking only at those schools which joined the School Improvement Network. Perhaps one could sample some of those which did not join to see if they were any different than those that did join. Or perhaps it might make even more sense to develop an ongoing longitudinal analysis of all participants in the Onward to Excellence Program so that it could be used for both analysis and monitoring (a standardized questionnaire might be developed so that each program could routinely complete it each year). For details of the impact study of the Onward to Excellence Program, see Robert E. Blum, Kim O. Yap, and Jocelyn A. Butler, "Onward to Excellence Impact Study," Paper presented at the American Educational Research Association Annual Meeting, San Francisco, April 1992; Robert E. Blum, Kim O. Yap, and Jocelyn A. Butler, "Onward to Excellence Impact Study," Northwest Regional Educational Laboratory (February 1993).

A typical shortcoming of many of the lab demonstration and evaluation projects was the lack of standardized measures that made comparisons meaningful or the failure to include any appropriate controls in their research designs. For example, the Southwest Lab investigated small and economically-disadvantaged rural schools in five different states over several years. The five demonstration schools, all of which had indicated an interest in improving their student achievement scores, were visited each month by a SEDL staff member responsible for facilitating change in that institution. Changes in education indicators over time were used to assess the improvements. Unfortunately, since the five sites did not use any overall standardized measures of educational success, it was impossible to make any systematic comparisons among the five schools. Since it appears that the schools which chose to participate were not necessarily typical of others in that region, it is difficult to know how much we should generalize from these findings. Moreover, since there were no control schools in the study we cannot establish just what factors were instrumental in making any of the improvements in student achievements. Thus, the SEDL project basically remains a limited but interesting demonstration effort at five diverse sites; unfortunately, their work does not provide the type of information that would be useful in ascertaining more generally or conclusively what are the key factors in improving rural education.[121]

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[120] Interestingly, when I discussed the conceptual and methodological shortcomings of this study with one of its authors, he readily agreed and explained that they had been constrained by the lack of time and funds available for this particular analysis. However, when I discussed the same issue with those at the Northwest Lab responsible for evaluation, they defended the study as methodologically sound and adequate. When the Northwest Lab submitted their final study, they did not seem to acknowledge or discuss the methodological shortcomings of their study that had been raised in writing with them by OERI and myself. Blum et al., "Onward to Excellence Impact Study" (1993).

Much of the research-related work of the labs consists of summarizing and synthesizing existing materials for policy papers. Some of these policy briefs are quite well done and very useful. The Northeast Lab, for example, has put together a nice series of briefing papers on teacher quality, pension portability, and teacher incentives.[122] The Mid-continent Lab has also produced some useful policy papers on subjects such as early childhood education.[123]

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[121] Deborah V. Jolly, Shirley M. Hord, and Marianne Vaughan, "Developing Indicators of Educational Success: The Road to Improvement in Five Schools," Paper presented at the American Educational Research Association Annual Meeting, Boston, April 1990.

[122] Anne E. Newton, "Teacher Quality: An Issue Brief," Regional Laboratory for Educational Improvement of the Northeast and Islands (May 1987); David Title, "Pension Portability in the Northeastern States," Regional Laboratory for Educational Improvement of the Northeast and Islands (1990); David Title, "The Critical Role of Teacher Incentives in the Northeast States," Regional Laboratory for Educational Improvement of the Northeast and Islands (March 1989).

But some of the briefing or policy papers are simply a loose catalogue of research without adequate attention either to the quality of the work being cited or the diversity of materials in the field. Kenneth Hansen's policy paper on early childhood education, for instance, does not cite or use the existing research literature on this subject very effectively.[124] Similarly, Kathleen Cotton's glowing and uncritical discussion of the benefits of early childhood education ignores the studies which question the efficacy of programs such as Head Start.[125] Janet Jewett's review of research states that "[s]tudies recommend limiting elementary class sizes to 15 in public schools and stress small group size for preschool children."[126] In fact, most of the studies of class size in elementary schools present a much more complex picture--including a publication from the Office of Educational Research and Improvement (OERI) three years earlier.[127]

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[123] Mid-continent Regional Educational Laboratory, "Early Childhood Education," Policy Notes, 4, 1, 1-11.

[124] Kenneth H. Hansen, "Early Childhood Education: Policy Issues," Northwest Regional Educational Laboratory (May 1988).

[125] Kathleen Cotton, "Educating Urban Minority Youth: Research on Effective Practices," Northwest Regional Educational Laboratory (November 1990).

[126] Janet Jewett, "School-Based Early Childhood Centers," Northwest Regional Educational Laboratory (July 1991), p. 10.

[127] Tommy M. Tomlinson, "Class Size and Public Policy: Politics and Panaceas," (Washington, DC: U.S. Government Printing Office, 1988). For additional studies of the complexity of the relationship between class size and student achievement, see Douglas E. Mitchell, Sara Ann Beach, and Gary Badarak, "Modeling the Relationship Between Achievement and Class Size: A Re-Analysis

Overall, the quality of research, evaluation, and development produced by the labs varies greatly--even more so than among the R&D centers. Contrary to the statements of some policy makers, some of the work of the labs is of high quality and usefulness. Most of the materials from the Far West Lab, for example, are as well-done conceptually and statistically as the products from most of the R&D centers. Yet there are serious weaknesses in the quality of much of the research put out by the other labs. While all of the labs have at least some staff who appreciate high quality research and know how to produce it, not everyone at those institutions has a strong commitment to the type of rigor and expensive methodology necessary for improving the quality of materials produced under task 3.[128]

We have spent more than $800 million (in constant 1982-84 dollars) on the labs since 1966. A sizable proportion of this money has been spent on research and development. Of the funds dedicated to research and development, much of it has not been well spent--especially during the past 10-15 years when applied research

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of the Tennessee Project STAR Data," California Educational Research Cooperative, University of California, Riverside (October 1991); Mitchell, Carson, and Badarak, "How Changing Class Size Affects Classrooms and Students"; Tommy M. Tomlinson, "Class Size and Public Policy: The Plot Thickens," Contemporary Education, 62 (Fall 1990), 1, 17-23; Elizabeth Word, Charles M. Achilles, Helen Bain, John Folger, John Johnston, and Nan Lintz, "Project STAR Final Executive Summary: Kindergarten Through Third Grade Results (1985-89)," Contemporary Education, 62 (Fall 1990), 1, 13-16.

[128] Moreover, one of the real dangers is that many of those at the labs who understand and support more systematic research and development are among those who worked at the labs in the late-1960s and 1970s. As they retire, much of the commitment and expertise in the labs to research and development will be lost.

and development appears to have decreased in both quantity and quality. The original and useful vision of the lab founders has not been fulfilled as many of the labs have become mainly technical assistance providers for their regional clients. Given the limited amount of original applied research or development done by the labs as well as the uneven quality of it, OERI's continued, substantial investment in this area needs to be reconsidered thoroughly and carefully.

Of course, much of the lab expenditures are for activities other than applied research or development--especially in more recent years. This analysis did not address the quality or the efficiency of those other activities. Therefore, while much of the applied research or development produced by the labs has been disappointing, this does not necessarily mean that the work of the labs overall has been problematic. Naturally, a detailed and careful assessment of the other lab activities (such as their provision of technical assistance) should be undertaken soon.

D. Lab Review Process

As we have already seen, the labs faced competition for the first time in 1985 and 1990. Although there had been concern about the process, by all accounts it was fair and non-controversial. Despite concerted efforts by the Office of Educational Research and Improvement (OERI) to stimulate competition for the lab contracts, in fact most of the incumbents were unopposed in either 1985 or

1990.

The lab competition for 1990 specified that separate awards would be made for each of the 10 regions designated (the 9 previous regions plus the addition of the Pacific Basic Region). Seven criteria were employed by the reviewers in making the awards: (1) regional needs (10 points); (2) relationships in region (20 points); (3) institutional capability (15 points); (4) plan of operation (25 points); (5) key personnel (20 points); (6) evaluation plan (5 points); and (7) adequacy of resources (5 points).

Unlike the criteria for the R&D centers, relatively little emphasis was placed on the mission statement for the labs.[129] More emphasis was placed on the importance of ties to the region and collaborations with other organizations.

The discussion of the research and development activities listed a large number of acceptable deliverables including newsletters, policy papers, concept papers, research reports, resource guides, handbooks, bibliographies, occasional bulletins, instructional materials, technical papers, synthesis papers, manuals, conference proceedings, and research instruments.[130] But in the scoring sheets for the reviewers, there was almost no emphasis on the importance of a specific research design for the proposed projects. Under the plan of operation, one of the ten subcategories was the quality of the project design but this item does not seem to have received much notice or attention during the competition.

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[129] Under section c of the plan of operation, it did ask "[t]he degree to which the objectives of the project relate to the overall mission of the laboratory program and also special emphasis in this statement of work (at-risk students, rural small schools and early childhood education)." Office of Educational Research and Improvement, "Technical Evaluation Form: Regional Educational Laboratory Competition," (1990), p. 6. But this was only one of 10 subcategories under the plan of operation.

Reading through the five 1985 and 1990 applications, one is struck by the lack of specificity for many of the proposed research or development projects. Most projects are described in general terms without specifying such important information as what types of instruments will be used to measure student outcomes or the size of the samples to be drawn. Perhaps this lack of detail about the research and development reflected in part the OERI guidelines to the labs which called for only short-term research and development projects and did not require a detailed research design. But this lack of specific details about the proposed activities was also a more general characteristic of the response of the applicants to the other questions as well.

Since most of these labs did not face any real competition, many of the reviewers chose not to make elaborate comments about the nature or quality of the proposed research and development activities. In the case of two regions, however, the proposals were deemed so weak that it became necessary for the labs to resubmit their revised applications twice before they were judged minimally acceptable.

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[130] Office of Educational Research and Improvement, "Regional Educational Laboratory Request for Proposal, 1990," (Washington, DC: Office of Educational Research and Improvement, 1990), p. 52.

Thus, while the lab competitions were fair and well-handled, little attention was paid to the nature or quality of the proposed research or development activities at that time. A few reviewers did question the lack of specificity of the plans, but most accepted the original or revised lab submissions without too much protest. While the OERI staff tried to improve the overall quality of the lab proposals, in several instances it was difficult to overcome the lack of a carefully specified research design or of a detailed development plan.

In both the 1985 and 1990 lab competitions, applicants were required to develop their own self-evaluation plan. For example, in the Regional Educational Laboratory Request for Proposals in 1990, task 5 was to conduct an evaluation of their own activities. Labs were expected to do both formative and summative evaluations. Among the four questions raised in the formative evaluation section, one explicitly addressed the issue of the adequacy of the research design: "Do applied research projects have appropriate designs that are carefully implemented?"[131] The quality of research issue received further reinforcement and clarification when the proposal stated that "[t]he contractor shall develop and implement a plan to assure high quality of its deliverables and R&D

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[131] Office of Educational Research and Improvement, "Regional Educational Laboratory Request for Proposal, 1990," p. 29.

products and publications."[132]

Unfortunately, the results of the lab self-evaluations and quality assurance have been very mixed. The Far West Lab generally has done a good job of quality assurance and is developing a critical and useful system of reviewing its activities. Evaluation of products and activities is done by each individual program or project, but the Director of Planning and Evaluation reviews their evaluation plans and reports as well as provides technical assistance to them. A sample of the lab's publications are sent out for external review.[133] While some improvements might be made in their impact analysis, on the whole the Far West seems to be coping successfully with the requirement to monitor and assess the quality of its products and services.

At some of the other labs, however, the self-evaluation activities have been less successful. Much of their evaluation activities have been devoted to an analysis of client satisfaction--a legitimate concern and one of the four formative evaluation questions asked in the 1990 lab RFP. But much less attention has been paid to a critical assessment of the quality of the applied research or development projects. Moreover, some of the labs did not always submit their research syntheses or policy papers to the scrutiny of other experts in the field. As a result, while OERI had intended the lab self-evaluation activities to play an important role in maintaining the quality of the services and deliverables produced by the labs, in practice the results were often disappointing.

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[132] Office of Educational Research and Improvement, "Regional Educational Laboratory Request for Proposal, 1990," p. 31.

[133] Paul D. Hood, "Responding to Educational Needs and Opportunities for School Improvement in the Far West: The Fourth Annual Self Evaluation Report of Far West Laboratory Regional Programs" (January 1990).

E. Lab Monitoring

Programs for the Improvement of Practice (PIP) under the direction of Eve Bither is one of the major offices within the Office of Educational Research and Improvement (OERI) and has the responsibility for overseeing the activities of the labs. The Educational Networks Division (END) under the direction of David Mack is one of the three divisions within PIP and administers the Regional Educational Laboratory Program.

Six programs, including the labs, are administered within END. The labs are directly overseen by the Laboratory Team under the direction of Charles Stalford.[134] Each lab is assigned a separate institutional liaison.[135] The institutional liaison

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[134] Near the end of this investigation, Charles Stalford has been given the assignment to direct the Eisenhower Math and Science Program within OERI. He has been replaced by Marshall Sashkin, the institutional liaison for the Far West Lab.

[135] Since laboratories are institutional programs rather than just projects, the term "institutional liaison" is used. Educational Networks Division, "Handbook for Institutional Liaisons," Office of Educational Research and Improvement (April 1992). Since the handbook is a loose leaf manuscript, it will not be possible to cite the appropriate pages when this document is being quoted.

Diane Ravitch, the Assistant Secretary for OERI, strongly objected to the word "liaison" for designating the staff members overseeing the R&D centers and preferred instead the word has the responsibility for overseeing the activities of his or her lab and coordinating those activities with other members of the Laboratory Team. While each institutional liaison has many other responsibilities within PIP, their work with the labs is seen as their primary responsibility.

As we have seen in the previous chapter, there was some confusion among the center monitors on the exact nature of their jobs as well as on the rules and regulations that governed the R&D centers. A partial explanation for the confusion among the nearly two dozen center monitors was that they were subdivided within the Office of Research (OR) into four different divisions which had different philosophies about the role of a center monitor. Moreover, the center monitors rarely met together as a group to discuss common problems and how to interpret the rules and regulations governing their grantees. The Office of Research (OR) at that time also did not have a handbook for monitors which might have helped to standardize their responses and practices.

The activities and interpretations of the rules and regulations of the lab institutional liaisons appear to be more co-ordinated--despite the fact that the individual labs exhibit considerably more diversity amongst themselves than the R&D centers. A major reason for the co-ordination among the

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"monitor." She felt that the term "monitor" implied a much more active oversight of the R&D centers than the word "liaison." As a result, the Office of Research (OR) now calls its staff members overseeing the R&D centers "monitors." Apparently, Ravitch has not made the same point about the individuals dealing with the labs so they continued to be called "institutional liaisons."

institutional liaisons is that all members of the laboratory team meet together for several hours each week to discuss lab policies and practices. This gives them an opportunity to get advice from each other as well as to discuss their interpretations of the rules and regulations governing the labs. Moreover, the Educational Networks Division (END) recently has developed a handbook for the institutional liaisons which should be useful for instructing new members of the Laboratory Team as well as for helping to standardize practices and interpretations.[136]

As among the center monitors, there was considerable diversity in the background and experiences of the lab institutional liaisons. Given the greater range of different activities performed by each of the labs than by each of the R&D centers, it may be more difficult for individual institutional liaisons to effectively monitor their entity than for the center monitors. This problem has been recognized by the Laboratory Team as it recommends "a team approach to monitoring the quality and usefulness of the program activity of the laboratories...."[137]

The institutional liaisons vary considerably in their ability to evaluate lab research and development activities. A few are well-prepared to assess the research design and statistical procedures used by their labs, but most of them do not have the training and research experience necessary for that particular task.[138] Many of the institutional liaisons have sought assistance from others within OERI to help them evaluate some of the research and development work performed as part of the lab's task three assignment. In the past, there was an evaluation unit within END that assisted lab liaisons. Unfortunately, that unit has been eliminated so that the lab liaisons now find it more difficult to receive the assistance they need in this area.

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[136] Educational Networks Division, "Handbook for Institutional Liaisons." The handbook has been placed in loose-leaf binders so that it can be easily updated to reflect any new regulations or activities.

[137] Educational Networks Division, "Handbook for Institutional Liaisons."

In theory, the R&D centers and labs are administered quite differently as the former are funded either as grants or co-operative agreements while the latter are funded as contracts. Presumably government contracts could be more closely monitored by the OERI staff than either grants or co-operative agreements, but in practice the reverse appears to be true. Probably the major explanation for this seeming discrepancy is that the governance and direction for the labs has been increasingly left to their regional boards. As a result, even though OERI has contracts with the labs, many of the institutional liaisons feel uncertain or ambivalent about their authority over these institutions. Most of the lab institutional liaisons appear to feel less able to direct and guide the activities of their institutions than their center monitor counterparts.

Most center monitors are able to visit their institutions only once a year, but the lab institutional liaisons are expected to conduct two site visits. In addition, the lab directors and some of their staff are more likely to meet with representatives from OERI in Washington, DC than are the center directors and their staff. The more prevalent physical contact between the labs and OERI staff may help some of the institutional liaisons to be more knowledgeable about certain aspects of their contractors than their colleagues monitoring the centers.

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[138] About half of the members of the lab team have an advanced degree beyond a BA. But few of the lab team have had much opportunity in recent years to be active researchers themselves.

The institutional liaisons for the labs examine the budgets submitted by their contractors, but they do not seem to pay too much attention to how the money is spent substantively. The PMIS forms which might provide some guidance on where and how lab money is spent are generally ignored by both the labs and their institutional liaisons. While almost all of the labs do fill out their PMIS forms as required by the contract, some of them do it so casually and eclectically as to render the results suspect for any analytic or comparative purposes. Moreover, the manner in which many labs report their expenditures on the six tasks makes it very difficult for someone to ascertain how the money is expended by individual project. Many of the budgets for the labs are not sufficiently detailed to permit an analysis of expenditures by individual projects. Some of the institutional liaisons do not seem to pay much attention to the information from PMIS in analyzing how their lab is functioning.

We noted the difficulties in getting center monitors to terminate the funds of individual research projects which were deemed unworthy and unsalvageable (and the money saved being either redistributed within the same center or to another R&D center). The same seems to be true for the labs. Institutional liaisons appear to be very reluctant to stop the funding of individual projects within their labs--perhaps in part because of the inherent difficulties involved in evaluating the quality of the diverse services provided by these institutions. Most lab directors do not appear seriously concerned that OERI might decide to stop the funding of any of their individual projects.

Perhaps the most surprising discovery was the lack of a detailed third-year review of the labs in 1992. OERI had done a thorough and careful third-year review of the labs in 1987--including the use of outside teams of experts visiting those institutions. Those reviews had uncovered some important weaknesses in some of the individual labs and provided useful information for planning for the 1990 lab competitions. Indeed, compared to the third-year R&D center reviews for 1987, the ones for the labs were much more systematic and rigorous.[139]

As we have seen in the previous chapter, the Office of Research (OR) conducted a thorough and detailed third-year review of the R&D centers in 1992. Part of the impetus for the review of the centers came from OR and part from Diane Ravitch, the recent former Assistant Secretary of OERI, who was anxious to investigate and improve the quality of research being done by the R&D centers. One might have thought that a comparable third-year review of the labs would have been undertaken simultaneously--especially since several of the labs funded in 1990 did not receive high marks from the original reviewers.

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[139] Unfortunately, the third-year review in 1987 did not look at the quality of the work being produced by the labs.

There are several explanations for the decision not to subject the labs to a third-year review in 1992. The Grants and Contracts (OGC) Office in the U.S. Department of Education did not encourage a third-year review because they interpreted the existing contract as a five-year package that could not be renegotiated.[140] Some of the leadership in PIP also wondered if a third-year review might be too expensive to conduct if teams of outside reviewers were used as in 1987. Moreover, there does not appear to have been any great concern within PIP that the quality of the products and services being produced by the labs were seriously deficient and therefore needing closer scrutiny. Perhaps the growing sense that the labs were being guided and monitored more by themselves than by the institutional liaisons militated also against any desire for a systematic third-year review of these institutions.[141] Finally, with the energy of the Office of the Assistant Secretary focused on the third-year review of the R&D centers, little attention was paid to the fact that PIP had decided not to do a third-year review of the labs.

Whatever the reasons for the decision not to conduct a thorough third-year review of the labs, that decision was unfortunate. The uneven quantity and quality of research and development work revealed in this investigation of five of the labs suggests that a more careful and thorough review of all of the activities of the 10 labs probably would have been useful. Moreover, given the fact that the National Academy of Science analysis of OERI did not consider in any detail the functioning of the R&D centers or the labs, an OERI-sponsored third-year lab review might have been timely both for improving the functioning of the current labs as well as for preparing for the recompetition of those institutions in 1995.

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[140] In 1987 the Grants and Contracts (OGC) Office did allow the five-year lab contracts to be subdivided into two components. However, the same interpretation was not given in 1992--perhaps in part because of staff changes in that unit.

[141] PIP did initiate an analysis of the governance of the labs through a three-year contract with Policy Studies Associates.

Given the explicit requirement that the labs conduct their own self-evaluations of the quality of their service deliverables, the institutional liaisons may need to pay closer attention to these efforts. If the lab self-evaluation task was fully and satisfactorily implemented, much of the quality assurance work of the institutional liaisons would be done for them. Then the institutional liaisons could rely more on the lab's own evaluation system and check periodically to make certain that it was functioning effectively to guarantee the quality of the work being performed by those institutions.

Some analysts would emphasize the importance of improving lab self-evaluations of quality even further. Indeed, a few knowledgeable and thoughtful employees in PIP even have questioned the wisdom of focusing on the role of the individual institutional liaisons for enhancing quality of the research and development products; rather, they would rely on use of total quality management (TQM) at the labs to improve and ensure the quality of their research and development work:

> [W]e take issue with the [draft] report's attribution of such problems to the quality and abilities of the institutional liaisons. The fact is that the form of monitoring advocated in the report would not and cannot lead to improved quality of products. We do not have here the space required to explain what Deming, Juran, and other international quality experts have been teaching (mostly to managers and executives in organizations in Japan and elsewhere outside the U.S.). To try to sum it up as succinctly as possible (and more than a little over-simplistically) quality is achieved only if it is designed into the system; it cannot be produced by inspection of product (though review and inspection is not irrelevant).[142]

While everyone can agree that the responsibility for developing and employing appropriate mechanisms for ensuring the quality of lab research and development ultimately begins with those institutions, it is less evident that many, if not most, of the labs will develop and use such a system based upon the TQM principles--especially without active and ongoing prodding by the

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[142] Comments from some employees in PIP on the earlier draft report (March 25, 1993).

OERI institutional liaisons. As discussed earlier, the Far West Lab certainly has developed and administered an effective self-monitoring system for ensuring the high quality of their products. But most of the other labs investigated in this study had not. Given the usually high, additional costs of improving research and development, there are few tangible incentives for labs to devote more of their scarce resources to upgrade the quality of the research and development--particularly if OERI and their other clients continue to accept the lower-cost and lower-quality R&D products without too much question. For TQM to work effectively, management first must accept the need for such changes and improvements and then be willing to invest the necessary resources for creating and supporting such a culture.[143] Therefore, while OERI needs to work with the labs to improve their self-evaluation systems, the institutional liaisons will need to continue to monitor the quality of the research and development produced by the labs.

Overall, one has the impression that the Laboratory Team in OERI is composed of some very capable individuals who pursue their responsibilities earnestly and diligently. Moreover, the organization and functioning of the laboratory team as a group is exemplary. Yet the ambiguities of the relationship of the labs to OERI are sufficiently great so that the institutional liaisons are not exercising the type of leadership and active monitoring that is needed given the uneven quality of research and development produced by the labs.

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[143] For a useful and thoughtful discussion of TQM and it limitations, see Marshall Sashkin and J. Kiser, Putting Total Quality Management to Work (San Francisco: Berrett-Koehler Publishers, 1993).

III. Conclusion

When the education laboratories were created in the mid-1960s, it was envisioned that they would be large-scale, national institutions devoted to systematically developing educational materials based upon research. But in practice that model of the labs was challenged from the very beginning as the U.S. Office of Research created a large number of smaller and more regional institutions. Nevertheless, the vision of large-scale labs which systematically developed curriculum and other education products survived through much of the 1970s both among policy makers in Washington, DC as well as among many of the lab directors.

In the late 1970s, however, both the vision and the reality of the labs were altered significantly--in large measure due to the pressures from the U.S. Congress at the behest of the labs. Increasingly labs became portrayed as regional entities whose primary function was to provide research-based technical assistance for their local constituents. This trend was reinforced and consolidated during the 1980s under the Reagan and Bush Administrations. An outright prohibition was placed on the development of large-scale curriculum and even the amount of original short-term applied research being done at the labs appears to have been reduced. The growing power of the regional labs' governing boards came at the expense of control and direction for these institutions from the Office of Educational Research and Improvement (OERI). Today, for all practical purposes, many of the labs are primarily regional institutions offering research-based technical assistance and governed mainly by their own regional boards.[144] Some of the labs, like the Far West Lab, continue to sponsor a significant amount of high quality short-term applied research and even a smaller number, like the Mid-continent Lab, still try to develop their own curriculum packages--though usually with non-OERI funds. At the same time, there is now a welcome trend toward cooperation and coordination among the labs on specific topics such as the improvement of math and science in the local schools; the revitalization of small, rural schools; and facilitation of the transition from preschool education to the elementary grades.

Taking into consideration the large changes in the mission and operation of the labs over time as well as the considerable diversity among them today, now would be an opportune time for OERI and others to rethink thoroughly the roles of the labs--especially given the recent efforts within OERI to develop a 3-5 year strategic plan, the need to recompete the labs in 1995, the impending reauthorization of the agency, and the change in administrations. How one defines and interprets the future mission of the labs will have a profound effect on how research and development are viewed and executed in this agency.

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[144] As the recent National Academy of Science report put it, "...the laboratories are now primarily service providers." Atkinson and Jackson, eds., Research and Reform, p. 78.

One might argue that the labs should basically remain as regional institutions providing research-based technical assistance to state education institutions and local school districts. This is certainly a plausible and defensible position. However, it also may have some long-term implications for the labs and OERI that need to be carefully explored and considered. For example, just how many different institutions need to be funded by the U.S. Department of Education to provide technical assistance? According to one estimate, the U.S. Department of Education is already funding 43 different programs to provide technical assistance.[145] An OERI survey of the U.S. Department of Education identified 12 separate technical assistant programs legislatively mandated which funded 135 projects or institutions at an annual cost of $90 million.[146] Would it be more cost-effective to consolidate some of these providers to minimize unnecessary duplication and to make it easier for local schools to obtain assistance? Would it be more efficient simply to provide directly to the states the federal money now allocated for training and technical assistance in order to let them purchase whatever particular services they need? As the regional education labs in effect have to compete against other types of providers of technical assistance, will the quality and cost of their services be competitive?

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[145] M. Bruce Nestlehut, "Management Improvement Report, No. 91-10" (Atlanta, GA: Office of Inspector General, U.S. Department of Education, 1991), pp. 1-2.

[146] Atkinson and Jackson, eds., Research and Education Reforms, p. 122.

Another possible complication of having the labs focus on research-based technical assistance to the regions may be the difficulty of maintaining the quality of the research staff necessary to carry out these functions. As the research and development professionals at the labs find little opportunity to pursue any original work, will the best ones be willing to stay and provide the needed expertise to evaluate and synthesize research and development materials produced elsewhere? And will the replacements for any of the departing research and development professionals have the necessary conceptual and technical skills to provide critical research-based assistance to the regional clients?

Finally, given the limited amount of research and development funding within OERI, does it make sense to devote such a large proportion of its total budget to labs which are only providing research-based technical assistance--especially if other units within the U.S. Department of Education are already providing substantial funds for technical assistance? The assumption in some of the recent OERI publications about the labs is "that enough is known from research and development and successful practice to help students and schools...."[147] While it is true that we do know enough about some education problems and solutions from research and development to disseminate that information to practitioners, unfortunately there is even much more that we do not know. Particularly missing at OERI today is the systematic development of educational products and services--an essential link between research and the teachers and administrators needing that information. Therefore, is it wise to focus the efforts of the labs mainly on regional dissemination of information and on the provision of technical assistance?

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[147] Educational Networks Division, "Handbook for Institutional Liaisons."

An alternative scenario is to expand the role for systematic applied research and development at the labs much along the lines envisioned for those institutions in the 1960s and early 1970s. While much of the regional services of the labs could be maintained, there would be greater emphasis on doing original applied research and development which would be useful not just to the lab's regional clients, but to the nation as a whole. Indeed, the need to make the findings from the lab investigations more generalizable and useful to others outside the region is already stated in the existing guidelines for the design of applied R&D lab projects.[148] Moreover, a substantial amount of funds is already being allocated for task 3--applied research and development. More of those task 3 funds might be used for original applied and development research rather than for producing research syntheses or policy papers (some of which might be done nationally rather than individually for each of the 10 separate labs).

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[148] Educational Networks Division, "Handbook for Institutional Liaisons."

Interestingly, this vision of labs which combines both national and regional concerns was one shared by many individuals within NIE and CEDaR in the mid-1970s.[149]

The total amount of spending in real dollars has decreased over time for the labs. Since many of the labs are now concentrating on providing small-scale services to clients anyway, the diminished size of the labs over time does not appear to have been the major factor in inhibiting more systematic and rigorous research and development. If the labs do begin to engage in more large-scale and long-term systematic development activities, however, then it may be necessary at some point to reconsider the size of their overall budget.[150] Initially, much of the additional funds for more systematic and large-scale applied research or development projects, however, can come from a redirection of existing monies rather than the addition of new funds.[151]

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[149] While the National Academy of Science panel did not stress the need for more applied and development work at the labs in their recommendations, they did suggest that the "innovative methods, programs, and processes [produced by the labs] should be subject to a quality assurance review--such as those conducted by the Program Evaluation Panel--before wide-scale distribution." Richard C. Atkinson and Gregg B. Jackson, eds., Research and Education Reform: Roles for the Office of Educational Research and Improvement (Washington, DC: National Academy Press, 1992), p. 152.

[150] The National Academy of Science analysis of the labs focused mainly on an expansion of staff as state liaisons at an additional annual cost of approximately $5 million to OERI. The panel did not call for an increase in overall lab funding--perhaps in part because they did not stress an expanded role for applied research and development in those institutions. Atkinson and Jackson, eds., Research and Education Reform, pp. 151-154.

As we have said in regard to the R&D centers, if there is no substantial increase in funding for mission-oriented or field-initiated research, it may be prudent to reallocate monies from the existing OERI funds for the R&D centers and labs. Again, perhaps 10 percent of the current lab budget should be redirected to mission-oriented or field-initiated research in order to have a more balanced portfolio of research and development activities as the National Academy of Science study of OERI recommended.[152]

In our earlier analysis of the R&D centers, we lamented the absence of basic research and suggested how it might be enhanced. Certainly the labs should be allowed to pursue some mission-oriented basic research as well. But a more important area for expanded activity for the labs would be to focus more on the systematic development of curriculum and other educational products. It is also time to revisit the long-standing outright prohibition against any OERI funding of large-scale curriculum development. While some of the cautions of the late 1970s and

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[151] Several individuals within OERI were concerned that the renewed emphasis on development by the labs would be used only as a rationale for these institutions garnering an even larger proportion of the scare research dollars in the agency. Clearly, that is not the intent of this recommendation. Since much of the existing task 3 funds, for example, are not well spent, they should be reallocated toward more systematic development efforts. Moreover, the recommendation for spending more funds on development is based upon the assumption that they will be devoted to systematic development of educational products and practices. While one can legitimately define development in much broader terms, the intent of this recommendation is restricted to a narrower definition which focuses on systematic development.

[152] Atkinson and Jackson, eds., Research and Education Reform.

1980s against such investments must be considered and addressed, it seems somewhat incongruous to continue such a blanket prohibition at a time when other agencies such as the National Science Foundation are making substantial federal investments in curriculum development for science and math education.[153]

Whether the funds allocated for more systematic development should be given directly to each lab from their existing OERI appropriations or pooled together and bid upon by the labs and other institutions such as the R&D centers needs to be explored further. One of the major advantages of having some type of competition for long-term developmental funds is that it would help OERI and its reviewer panels to select the strongest proposals from those institutions which are really interested in participating in such endeavors.

If the mission of the labs is reordered to emphasize more large-scale and systematic development, then obviously it may be necessary to redirect some of the existing development funds from some of the small and short-term projects the labs are currently pursuing. Moreover, given the unequal quality of applied and developmental research that has been encountered in this investigation, more emphasis needs to be placed on the quality of the work produced. Some of the current lab evaluation plans may need to be strengthened by the inclusion of more outside reviewers with the requisite social science skills necessary to assess the various types of applied research and systematic developmental efforts that the labs may be pursuing.

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[153] Perhaps one could adapt some of the safeguards that the NSF has introduced in its regulation of curriculum development in recent years to avoid many of the criticisms it received for its MACOS project. For a helpful discussion of that controversy at NSF and the attempts by that agency to rectify the situation, see Dow, Schoolhouse Politics.

If the labs move toward the production of more systematic and large-scale applied research and development, it may be useful for them to increase the representation of individuals on their regional governing boards who are experienced and trained in research and developmental tasks. At the present time, with the exception of a few labs, it does not appear that there are many persons on the existing regional governing boards who are experienced researchers or well-trained developmentalists. By including more researchers and developmentalists, it will provide the regional governing boards with the expertise necessary to guide and monitor the work of those institutions; it will also reinforce the value of such activities among the regional governing boards.

The quality of the research and development at the labs can also be enhanced by several improvements at OERI. The next competition for labs in 1995 should request more specific information about the design and operation of the proposed applied research and development projects. The technical panels assigned to evaluate those proposals should have sufficient representation from individuals expert in research and development in order to assure a high level of quality. Again, as with the reviewers for the R&D centers, they should be modestly compensated in order to ensure being able to recruit the most competent and appropriate individuals.

The limited analysis of the labs by the National Academy of Science panel led them to question the advisability of any future competitions for those institutions due to the lack of competition and to the concern that the process did not improve the performance of the incumbents.[154] While the panel has raised a legitimate and important issue, unfortunately they did not conduct the type of careful and thorough review of the labs to warrant such a strong conclusion. My own perusal of the applications for the five labs, including one which had to resubmit their proposal twice before being funded, suggests that the application process may have provided a convenient and useful opportunity for OERI and the outside reviewers to clarify and influence the direction and nature of the proposed activities at those institutions. Given the continued difficulties for some OERI institutional liaisons to monitor and improve the operation of the labs today, the elimination of any future lab competition what-so-ever may be counter-productive. Moreover, before relying only upon the promise of a periodic review of the labs to monitor their progress, perhaps first we should be certain that OERI can and will develop an appropriate and effective lab review system which ensures the quality of the products being produced. Finally, as the mission and the orientation of the labs may change over time (as they have so frequently done in the past), limiting the candidates for those new or revised tasks only to the current labs may be short-sighted. Thus, before considering any changes in the present system of holding competitions for the labs every five years, we may need a more indepth and systematic analysis of those institutions than the National Academy of Science panel was able to provide.[155]

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[154] Atkinson and Jackson, eds., Research and Education Reform, p. 152. In subsequent public and private discussions with some individuals from the National Academy of Science panel, they stressed the high cost of running such competitions. However, if this was the basis of their decision, they might have provided us with some estimates of those costs. Moreover, given the sizable expenditure that the federal government invests in the labs over a five-year contract, would a small percentage of those funds expended on a useful competition really be inappropriate?

OERI must take a much more active role in guiding and monitoring the labs. While the agency should consult and work with the regional governing boards, the overall national directions for the labs must come from OERI--based, of course, upon careful and extensive consultation with local and state education officials, teachers, and parents. The recent efforts of OERI and the lab directors to develop a national system of regional educational labs is a welcome development and not inconsistent with the continued attention of the labs to the particular needs of their regional constituents. One of the important advantages of focusing on the national character of the regional education lab system is that it permits a greater specialization of the applied research and development among the labs and the elimination of unnecessary duplication and waste. Moreover, this specialization might allow individual labs to undertake some of the more large-scale and long-term applied research and development without diverting too much of the funds for providing technical assistance to regional clients.

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[155] There is a widespread undercurrent among some analysts and policy makers that the presence of an incumbent lab director on the National Academy of Science panel led to the recommendation that the labs should not have to face recompetition in the future. On the basis of my interviews some of the individuals connected with that effort, I did not detect any evidence to that effect. However, one might question the wisdom of the National Academy of Science for putting an active member from an OERI-funded lab and a R&D center on the panel since this might have inadvertently created the appearance of a potential conflict of interest. Indeed, one knowledgeable observer of the National Academy of Science study believes that the presence of a lab and a center director on the panel discouraged more open and candid discussions of the strengths and weaknesses of those institutions.

As the applied research and development products of the labs are oriented more to a national audience, it will also be appropriate and important to require that any of the quantitative research and development data assembled by those institutions using OERI funds be made available to others through a public use data archive. Again, as with the situation of the R&D centers, perhaps the guidelines for depositing data adopted by the National Science Foundation for its social science grantees could be used as the basis for developing a comparable policy for OERI.

The Educational Networks Division (END) within the Programs for the Improvement of Practice (PIP) needs to monitor more closely the quality of applied research and development produced by the labs. More attention needs to be paid to the required lab self-evaluations to ensure that quality of their services and deliverables meet the highest standards. An indepth third-year review of all of the labs products and services would have been useful--comparable, but not entirely identical, to the review of the R&D centers by the Office of Research (OR). Moreover, some of the institutional liaisons need to take a more active role in monitoring the quality of the applied research and development at their institutions. As with the R&D centers, in situations where an individual project at a lab is deemed inadequate conceptually and methodologically, that project should be redesigned satisfactorily or those funds redirected to other activities within that lab or reassigned to another lab. The problem is not that the institutional liaisons are advocates or defenders of the labs. On the contrary, most of them can and have been quite critical of aspects of the labs. However, many of them often feel too powerless in the present circumstances to assert the type of leadership needed to monitor effectively the quality of work being done at those institutions.

As we have noted earlier, the Laboratory Team at END is already doing a good job of co-ordinating their activities and standardizing their interpretations of the federal rules and regulations governing the labs. They are to be commended and encouraged to continue their co-ordination and co-operation amongst themselves. The development of a handbook for institutional liaisons is also an important step forward. Perhaps in the near future it may be possible to expand the handbook to include some additional suggestions on how to monitor more effectively the quality of the applied research and development produced in the labs. Finally, the ability of the institutional liaisons to visit the labs at least twice a year should be maintained.

Since some of the institutional liaisons, like their center monitor counterparts, have not had sufficient training and experience in research and development to oversee properly those activities in the labs, it may be necessary and useful to draw upon the expertise of others in END or elsewhere in OERI. Some of the institutional liaisons also may need and want additional training in social science methodology as well as development practices to enhance their skills. Perhaps it is also time to re-establish an evaluation unit within END or PIP that could provide technical assistance to the institutional liaisons when it is needed.

One of the difficulties encountered in evaluating the nature and cost of the applied research and development at the labs was the inadequacies in the design and the reporting of substantive and budgetary information in the current PMIS system at OERI. The categories for the PMIS system should be expanded and defined more carefully in order to reflect more accurately lab activities and expenditures. Particularly, more attention needs to be devoted to the definition of development and it may be necessary to subdivide that broad category in order for everyone to be able to communicate more effectively with each other. The PMIS forms should be promptly and completely filled out by the labs and that information used by the institutional liaisons and other policy makers at OERI to analyze the activities of those units.

It has been all too easy to forget the importance of worrying about quality in the research and development produced by the labs and the R&D centers. Neither OERI or the U.S. Congress has paid sufficient attention to it in the past, despite the occasional and prophetic warnings from individuals like Sam Sieber nearly two decades ago:

> In the context of current pressures for dissemination, it is easy to forget that not all information or innovations are really worth disseminating. Obviously, if information or innovations are unreliable, misleading, or unsuited to the situation, they can have repercussions which are altogether harmful. And even if not harmful, an accumulation of futile experiences with information or products might create an attitude of skepticism toward R&D of all kinds. Further, even when an innovation is workable and effective, the opportunity cost of this particular innovation rather than another might be undesirable. Although these points are obvious, it would seem that we are still wedded to the notion of "the more utilization the better."[156]

Perhaps now is the time to set aside some of the past acrimony between OERI and the labs in order to work together to develop a truly effective and useful system for educational research and development which finally adequately takes into account the quality of the work being commissioned and produced. Otherwise we will be condemned to continue to waste much of the scarce federal resources we have for helping all of our children receive the high quality of education they need and deserve.

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[156] Campbell et al., R&D Funding Policies of the National Institute of Education, p. 90.

APPENDIX A

Curriculum Vitae of Maris Vinovskis

Curriculum Vitae

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Birthdate and Place: January 1, 1943 in Riga, Latvia (immigrated to the U.S. in December 1949 from West Germany and became a naturalized U.S. citizen in 1961 in Omaha, Nebraska)

Education: Wesleyan University, B.A., 1965

Harvard University, A.M., 1966

Cornell Summer Program in Quantitative Methods and Models of the Social Sciences (sponsored by the Mathematics Social Science Board) 1967

Harvard University, Ph.D., 1975. Ph.D. Dissertation: "Demographic Change in America from the Revolution to the Civil War: An Analysis of the Socio-Economic Determinants of Fertility Differentials and Trends Massachusetts from 1765 to 1860"

Center for Advanced Study in the Behavioral Sciences Summer Program on Life-Span Development (sponsored by the Social Science Research Council), 1980

ICPSR Summer Program in Quantitative Methods, Workshops on Linear Models and on Log-linear Models, 1987

Employment:

Professor of History, University of Michigan, 1981--

Research Scientist, Center for Political Studies, Institute for Social Research, University of Michigan, 1981--

Research Advisor to the Assistant Secretary of Education [Senior Executive Service], Office of Educational Research and Improvement, 1992-1993 (on leave from the University of Michigan)

Consultant, Office of Educational Research and Improvement, Department of Education, 1992

Consultant, Office of Family Planning Programs, Department of Health and Human Services, 1983-1985

Consultant, Office of Adolescent Pregnancy Programs, Department of Health and Human Services, 1981-1983

Associate Professor of History, University of Michigan, 1977-1981

Deputy Staff Director, U.S. House Select Committee on Population, Washington, D.C., September 1978-January 1979 (on leave from the University of Michigan)

Assistant Staff Director, U.S. House Select Committee on Population, Washington, D.C., December 1977-August 1978 (on leave from the University of Michigan)

Associate Research Scientist, Center for Political Studies, Institute for Social Research, University of Michigan, 1977-1981

Assistant Professor of History, University of Michigan, 1974-1977

Faculty Associate, Center for Political Studies, Institute for Social Research, University of Michigan, 1974-1977

Rockefeller Fellow in the History of the Family Project at Clark University and the American Antiquarian Society, 1973-1974 (on leave from the University of Wisconsin)

Research Fellow at the Center for Population Studies, Harvard University, 1973-1975

Assistant Professor of History, University of Wisconsin, 1972-1974

Member of the Center for Demography and Ecology at the University of Wisconsin, 1972-1974

Teaching Fellow in American History at Harvard University, 1970-1972

Instructor in "History of U.S.", a Harvard University Extension Course, 1970

Member of Somerville, Massachusetts Zoning Appeals Board, 1970-1972

Books:

Co-edited *The Survival Equation: Man, Resources, and the Environment* (Boston, Houghton Mifflin, 1971). (with Roger Revelle and Ashok Khosla)

Demographic History and the World Population Crisis (Worcester, Mass.: Clark University Press, 1976) [The Chester Bland-Dwight E. Lee Lectures in History, Clark University, 1974.]

Co-edited *Family and Population in Nineteenth-Century America* (Princeton: Princeton University Press, 1978) [A volume in the MSSB series in Quantitative Studies in History]. (with Tamara K. Hareven)

Edited *Studies in American Historical Demography* (New York: Academic Press, 1979).

Education and Social Change in Nineteenth-Century Massachusetts (Cambridge, England: Cambridge University Press, 1980). (with Carl F. Kaestle)

Co-edited *The Law and Politics of Abortion* (Lexington, Mass.: Lexington Books, 1980). (with Carl E. Schneider)

Fertility in Massachusetts from the Revolution to the Civil War (New York: Academic Press, 1981).

The Origins of Public High Schools: A Re-Examination of the Beverly High School Controversy (Madison, Wis.: University of Wisconsin Press, 1985)

Co-edited *Michigan: Explorations in Its Social History* (Ann Arbor, MI: Historical Society of Michigan, 1987). (with Francis X. Blouin, Jr.)

An "Epidemic" of Adolescent Pregnancy? Some Historical and Policy Perspectives (New York: Oxford University Press, 1988).

Edited *Towards a Social History of the Civil War: Exploratory Essays on the North* (Cambridge, England: Cambridge University Press, 1990).

Religion, Family, and the Life Course: Explorations in the Social History of Early America (Ann Arbor, MI: University of Michigan Press, 1992). (with Gerald F. Moran)

Edited *Historical Perspectives on the Current Education Reforms* (forthcoming) (with Diane Ravitch)

Articles and Essays:

"Horace Mann on the Economic Productivity of Education," *New England Quarterly*, XLIII, No. 4 (December 1970), 550-571.

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"The Field of Early American History: A Methodological Critique," The Family in Historical Perspective, No. 7 (Winter 1974), 2-8.

"Marital Fertility, Ethnicity, and Occupation in Urban Families: An Analysis of South Boston and the South End in 1880," Journal of Social History, IX (March 1975), 69-93. (with Tamara K. Hareven)

"Angels Heads and Weeping Willows: Death in Early America," Proceedings of the American Antiquarian Society, LXXXVI (1976), 273-302.

"Socio-Economic Determinants of Interstate Fertility Differentials in the United States in 1850 and 1860," Journal of Interdisciplinary History, VI, No. 3 (Winter 1976), 374-396.

"The Female School Teacher in Antebellum America," Journal of Social History, X, No. 3 (Spring 1977), 332-345. (with Richard M. Bernard)

"From Household Size to the Life Course: Some Observations on Recent Trends in Family History," American Behavioral Scientist, XXI, No. 2 (November/December 1977), 263-287.

"A Ray of Millenial Light: Early Education and Social Reform in the Infant School Movement in Massachusetts, 1826-1840," in Family and Kin in Urban Communities, 1700-1930, ed. Tamara K. Hareven (New York: New Viewpoints, 1977), 62-99. (with Dean May)

"Childbearing in Five Essex County Towns in 1880," in Family and Population in Nineteenth-Century America, eds. Tamara K. Hareven and Maris A. Vinovskis (Princeton: Princeton University Press, 1978), 85-125. (with Tamara K. Hareven)

"From Fireside to Factory: School Entry and School Leaving in Nineteenth-Century Massachusetts," in Transitions: The Family and the Life Course in Historical Perspective, ed. Tamara K. Hareven (New York: Academic Press, 1978), 135-186. (with Carl F. Kaestle)

"Women's Work and the Life Course in Essex County, Massachusetts, 1880," in Transitions: The Family and the Life Course in Historical Perspective, ed. Tamara K. Hareven (New York: Academic Press, 1978), 187-216. (with Karen Mason and Tamara K. Hareven)

"A Multivariate Regression Analysis of Fertility Differentials Among Massachusetts Regions and Towns in 1860," in Historical Studies of Changing Fertility, ed. Charles Tilly (Princeton: Princeton University Press, 1978), 255-256.

"From Apron Strings to ABCs: Parents, Children, and Schooling in Nineteenth-Century Massachusetts," in Turning Points: Historical and Sociological Essays on the Family, eds. John Demos and Sarene Spence Boocock (Chicago: University of Chicago Press, 1978), 39-80. (with Carl F. Kaestle)

"Marriage Patterns in Mid-Nineteenth Century New York State: A Multivariate Analysis," Journal of Family History, III, No. 1 (Spring 1978), 51-61.

"Beyond Catherine Beecher: Female Education in the United States," Signs, III, No. 4 (Summer 1978), 856-869. (with Richard M. Bernard)

"The Jacobson Life Table of 1850: A Critical Re-Examination from a Massachusetts Perspective," Journal of Interdisciplinary History, VIII, No. 4 (Spring 1978), 703-724.

"Recent Trends in American Historical Demography: Some Methodological and Conceptual Considerations," Annual Review of Sociology, IV (1978), 603-627.

"The Invisible Lunatics: Old Age and Insanity in Mid-Nineteenth Century Massachusetts," in Aging and the Elderly: Humanistic Perspectives in Gerontology, eds. Stuart F. Spicker, et al. (Atlantic Highlands, N.J.: Humanities Press, 1978), 95-125. (with Barbara G. Rosenkrantz)

"Sustaining 'The Flickering Flames of Life': Accountability and Culpability for Death in Antebellum Asylums," in Health Care in America: Essays in Social History, eds., Susan Reverby and David Rosner (Philadelphia: Temple University Press, 1979), 154-182. (with Barbara G. Rosenkrantz)

"Caring for the Insane in Ante-Bellum Massachusetts: Family, Community, and State Participation," in Kin and Communities: Families in America, eds. Allan J. Lichtman and Joan R. Challinor (Washington, D.C.: Smithsonian Institution Press, 1979), 187-218. (with Barbara G. Rosenkrantz)

"Abortion and the Presidential Election of 1976: A Multivariate Analysis of Voting Behavior," Michigan Law Review, LXXVII, No. 7 (August 1979), 1750-1771.

"The Politics of Abortion in the House of Representatives in 1976," Michigan Law Review, LXXVII, No. 7 (August 1979), 1790-1827.

"Problems and Opportunities in the Use of Individual and Aggregate Level Census Data," in Historical Social Research: The Use of Historical and Process-Produced Data, eds., Jerome M. Clubb and Erwin K. Scheuch (Stuttgart, Germany: Klett-Cotta, 1980), 53-70.

"Are We Erasing Our Past? Research Problems and Opportunities with Machine-Readable College and University Records," in Archivists and Machine-Readable Records, eds. Carolyn L. Geda, Erik W. Austin and Francis X. Blouin, Jr. (Chicago: Society of American Archivists, 1980), 32-47.

"Abortion and the 1978 Congressional Elections," Family Planning Perspectives, XII, No. 5 (September/October 1980), 238-246. (with Michael W. Traugott)

"The Fertility Decline in the West as a Model for Developing Countries Today: The Case of Nineteenth-Century America," in Fertility Decline in the Less-Developed Countries, ed. Nick Eberstadt (New York: Praeger, 1981), 228-253.

"An 'Epidemic' of Adolescent Pregnancy? Some Historical Considerations," Journal of Family History, VI, No. 2 (Summer 1981), 205-230.

"Images of Elderly in Popular Literature: A Content Analysis of Littell's Living Age, 1845-1882," Social Science History, V, No. 2 (Spring 1981), 123-170. (with Jane Range)

"Kubler-Ross and the Five Stages of Dying: Some Methodological and Conceptual Reservations," Proceedings of the World Conference on Records (1981), Vol. 3, Series 328, 1-20.

"Aged Servants of the Lord: Changes in the Status and Treatment of Elderly Ministers in Colonial America," in Aging from Birth to Death: Socio-Temporal Perspectives, Vol. II, eds. Matilda W. Riley, Ronald P. Abeles, and Michael S. Teitelbaum. (Boulder, Colo.: Westview Press, 1982), 105-137.

"The Puritan Family and Religion: A Critical Reappraisal," William and Mary Quarterly, 3rd Series, XXXIX (January 1982), 29-63. (with Gerald F. Moran)

"Quantification and the Analysis of American Ante-Bellum Education," Journal of Interdisciplinary History, XIII, No. 4 (Spring 1983), 761-786.

"Community Studies in Urban Educational History: Some Methodological and Conceptual Observations," in Schools in Cities Consensus and Conflicts in American Educations History, eds. Ronald K. Goodenow and Diane Ravitch (New York: Holmes and Kreier, 1983), 287-304.

"Public Opinion, Elections, and the 'Single-Issue' Issue," in The Abortion Dispute and The American System, ed. Gilbert Y. Steiner. (Washington, D.C.: Brookings Institution, 1983), 64-81. (with John Jackson)

"Home, Hearth, and History: American Families in the Past," in Ordinary People and Everyday Life: Perspectives on the New Social History, eds. James B. Gardner and George Rollie Adams (Nashville, Tenn.: American Association for State and Local History, 1983), 115-138.

"Historical Perspectives on Rural Development and Human Fertility in Nineteenth-Century America," in Rural Development and Human Fertility, eds. Wayne A. Schutjer and C. Shannon Stokes (New York: Macmillan, 1984), 77-96.

"Training and Retraining in Quantitative Approaches to the Social Science," Historical Methods, XVII, No. 4 (Fall 1984), 255-264. (with Jerome M. Clubb)

"Young Fathers and Their Children: Some Historical and Policy Perspectives," in Adolescent Fatherhood, Arthur B. Elster and Michael E. Lamb, eds. (Hillsdale, NJ: Lawrence Erlbaum, 1986), 171-192.

"Adolescent Sexuality and Childbearing in Early America," in School-Age Pregnancy and Parenthood: Biosocial Dimensions, Jane B. Lancaster and Beatrix A. Hamburg, eds. (New York: Aldine, 1986), 303-322.

"The Great Care of Godly Parents: Early Childhood in Puritan New England," in History and Research in Child Development, eds. Alice B. Smuts and John W. Hagen, Monographs of the Society for Research in Child Development, Vol. 50, Nos. 4-5 (1986), 24-37. (with Gerald F. Moran)

"Teenage Pregnancy," Social Science, 71, No. 2/3 (Fall 1986), 158-164.

"The Changing Family," LSA (Spring 1987), 17-20.

"Should We Discourage Teenage Marriage?" Public Interest, 87 (Spring 1987), 23-37. (with P. Lindsay Chase-Lansdale)

"Historical Perspectives on The Development of The Family and Parent-Child Interactions," in Parenting Across the Life Span: Biosocial Dimensions, Jane B. Lancaster, Jeanne Altmann, Alice S. Rossi, and Lonnie Sherrod, eds. (New York: Aldine, 1987), 295-312.

"Family and Schooling in Colonial and Nineteenth-Century America," Journal of Family History, XII, Nos. 1-3 (1987), 19-37.

"Changing Perspectives on the American Family in the Past," Annual Review of Sociology, Vol. 13 (1987), 193-216. (with Susan M. Juster)

"The Historian and the Life Course: Reflections on Recent Approaches to the Study of American Family Life in the Past," in Life-Span Development and Behavior, eds. Paul B. Baltes, David L. Featherman, and Richard M. Lerner (Hillsdale, NJ: Erlbaum, 1988), 33-59.

"The Unraveling of the Family Wage Since World War II: Some Demographic, Economic, and Cultural Considerations," in The Family Wage: Work, Gender, and Children in the Modern Economy, ed. Bryce J. Christensen (Rockford, IL: Rockford Institute, 1988), 33-58.

"Historical Development of Age-Stratification in Schooling," Teacher's College Record, 90, No. 2 (Winter 1988), 211-236. (with David Angus and Jeffrey Mirel)

"Have We Underestimated the Extent of Ante-Bellum High School Attendance?" History of Education Quarterly, 28, No. 4 (Winter 1988), 551-567.

"Teenage Pregnancy and the Underclass," Public Interest, 93 (Fall 1988), 87-96.

"Rediscovering the Family in the Past," in Family Systems and Life-Span Development, eds. Kurt Kreppner and Richard M. Lerner (Hillsdale, NJ: Erlbaum, 1989), 381-394. (with Susan E. Harari)

"Stepping Down in Former Times: The View from Colonial and Nineteenth-Century America," in Age Structuring in Comparative Perspective, eds. David I. Kertzer and K. Warner Schaie (Hillsdale, NJ: Erlbaum, 1989), 215-225.

"Have Social Historians Lost the Civil War? Some Preliminary Demographic Speculations," *Journal of American History*, LXXVI, No. 1 (June 1989), 34-58.

"The Use and Misuse of Social Science Analysis in Federal Adolescent Pregnancy Policy," *Distinguished Lectures in the Social Sciences* (DeKalb, IL: Northern Illinois University, November 1989).

"The Role of Education in the Economic Transformation of Nineteenth-Century America," in *Education and the Economy: Hard Questions, Hard Answers*, ed. Susan Berryman (New York: National Center for Education and Employment Conference Papers, 1989).

"American Institutions and the Study of Family Life in the Past," in *Institutions in American Society*, ed. John E. Jackson (Ann Arbor, MI: University of Michigan Press, 1990), 57-79.

"Death and Family Life in the Past," *Human Nature*, I, No. 2 (1990), 109-122.

"Adolescence in Nineteenth-Century America," in *Encyclopedia of Adolescence*, eds. Richard M. Lerner, Anne C. Petersen, and J. Brooks-Gunn (New York: Garland Publishing, 1991), II, 698-707. (with Susan M. Juster)

"Changing Approaches to the Study of Family Life in the Past," in *American Families: A Reference Guide and Historical Handbook*, eds. Joseph M. Hawes and Elizabeth I. Nybakken (Westport, Conn.: Greenwood Press, 1991), 15-32. (with Laura McCall)

"Schooling and Poor Children in 19th-Century America," *American Behavioral Scientist*, 35, No. 3 (January/February 1992), 313-331.

"History of Child Care in the United States Before 1950," in *Child Care in Context: Cross-Cultural Perspectives*, eds. Michael E. Lamb, Kathleen J. Sternberg, Carl-Philip Hwang, and Anders G. Broberg (Hillsdale, NJ: Lawrence Erlbaum, 1992), 185-206. (with Victoria Getis)

"Historical Perspectives on Adolescent Pregnancy," *Early Parenthood and Coming of Age in the 1990s*, eds. Margaret K. Rosenheim and Mark F. Testa (Rutgers, NJ: Rutgers University Press, 1992), 136-149.

"Immigrants and Schooling in the United States," *Immigrants in Two Democracies: French and American Experience*, eds. Donald Horowitz and Gerard Noiriel (New York: New York University Press, 1992), 127-147.

"Adolescent Pregnancy and Child Support," *Children at Risk in America: History, Concepts, and Public Policy*, ed. Roberta Wollons (Albany, NY: State University of New York Press, 1993), pp. 202-229. (with Lindsay Chase-Lansdale)

"Impact of the Civil War on American Widowhood," in *The Changing American Family: Sociological and Demographic Perspectives*, eds. Scott J. South and E. Stewart Tolnay (Boulder. CO: Westview Press, 1992), pp. 63-85. (with Amy Holmes)

"From the Mathers to Madonna: Changing Attitudes toward Adolescent Pregnancy," in *Adolescent Pregnancy*, eds. Annette Lawson and Deborah Rhode (forthcoming). (with Susan Harari)

"An Historical Perspective on Support for Schooling by Different Age Cohorts," in The Changing Contract Across Generations, eds. Andrew Achenbaum and Vern Bengtson (New York: Aldine, 1993), pp. 45-65.

"Early Childhood Education: Then and Now," Daedalus, CXXII, No. 1 (Winter 1993), 151-176.

"Death," in Encyclopedia of American Social History, eds. Mary K. Cayton, Elliott J. Gorn, and Peter W. Williams, III (New York: Charles Scribner's Sons, 1993), pp. 2063-2070.

"Troubled Youth: An Analysis of Children at Risk in Early Modern England and Colonial and Nineteenth-Century America," in Adolescents at Risk, eds. Robert Ketterlinus and Michael Lamb (forthcoming). (with Gerald F. Moran)

"Whose Responsibility? An Historical Analysis of the Changing Roles of Mothers, Fathers, and Society in Assuming Responsibility for U.S. Children," in Children and the Family Support Act, eds. Jeanne Brooks-Gunn and Lindsay Chase-Lansdale (forthcoming). (with Lindsay Chase-Lansdale)

"Historical Perspectives on Parental Investment and Childbearing," in Birth Management, eds. Jane Lancaster and Michael Lamb (forthcoming).

"Changing Perceptions and Treatment of Young Children in the United States," in Images of Childhood, eds. Michael E. Lamb, Philip Hwang, and Irving Sigel (forthcoming).

"The Elderly and the Almshouses: Some Further Reflections," in Social Structure and Aging: Some Historical Perspectives, eds. Andrew Achenbaum and K. Warner Schaie (forthcoming).

"School Readiness and Early Childhood Education: Some Historical Perspectives," in Historical Perspectives on the Current Education Reforms, eds. Diane Ravitch and Maris A. Vinovskis (forthcoming).

Reports and Hearings:

Task Force Director for drafting U.S., Congress, House Select Committee on Population, Report on Fertility and Contraception in the United States, 95th Congress, 2nd Session (December 1978), 128 pp.

Task Force Director for hearings of U.S., Congress, House Select Committee on Population, Hearings on Fertility and Contraception in the United States, 95th Congress, 2nd Session (February-June 1978), 3 volumes.

Assisted in supervising and editing of five more reports and eight additional volumes and hearings of the U.S. House Select Committee on Population, 1978.

"Evaluation of the Activities of the Alan Guttmacher Institute for the Ford Foundation" (June 1980), 70 pp.

"The Report of the Washington Area Second Team on Future Inadvertent Human Intrusion into the WIPP Repository" in Expert Judgment on Inadvertent Human Intrusion Into the Waste Isolation Pilot Plant, eds. Stephen C. Hora, Detlof von Winterfeldt, and Kathleen M. Trauth (Albuquerque, NM: Sandia National Laboratories, 1991), F1-F30. (with Theodore Glickman, Norman Rosenberg, and Max Singer).

"Surveys of Academic Freedom Among Faculty, Students, and the Public: A Review of the Literature and Suggestions for Future Research" (September 1991) [for Office of Education Research and Improvement, Department of Education].

Review Essays:

"American Historical Demography: A Review Essay," Historical Methods Newsletter, IV, No. 4 (September 1971), 141-148.

Review essay of Peter Knight's The Plain People of Boston, 1830-1860 in Journal of Interdisciplinary History, III, No. 4 (Spring 1973), 781-786.

Review essay of Bernard Farber's Guardians of Virtue: Salem Families in 1800 in The Family in Historical Perspective, No. 3 (Spring 1973), 2-5.

"From Springfield to Omaha," Reviews in American History, I, No. 3 (September 1973), 330-335.

"The Demography of the Slave Population in Antebellum America: A Critique of Time on the Cross," Journal of Interdisciplinary History, V, No. 3 (Winter 1975), 459-467.

"Estimating the Wealth of Americans on the Eve of the Revolution," Journal of Economic History, XLI, No. 2 (June 1981), 415-420.

"Cops and Corpses: New Approaches to the Study of Police and Crime in Nineteenth-Century America," Historical Methods, XVI, No. 1 (Winter 1983), 36-40.

"Searching for Classes in Urban North America," Journal of Urban History, XI, No. 3 (May 1985), 353-360.

"Responses to Comments of Michael Katz and Edward Stevens on the Origins of Public High Schools," History of Education Quarterly, 27, No. 2 (Summer 1987), 250-258.

"Hasty Marriages or Hasty Conclusions," Public Interest, 90 (Winter 1988), 128-132. (with Lindsay Chase-Lansdale)

"Discussion of Recent Ph.D.s in American Economic History," Journal of Economic History, XLVIII, No. 2 (June 1988), 424-427.

"The Darker Side of Educational Progress," Reviews in American History, XVI, No. 2 (June 1988), 255-259.

"Stalking the Elusive Middle Class in Nineteenth Century America," Comparative Studies in Society and History, XXXIII, No. 3 (July 1991),

Short Book Reviews:

American Historical Review, 1986, 1987, 1988, 1989
American Journal of Education, 1989
Annals of American Academy of Political and Social Science, 1989
Business History Review, 1982
Comparative Studies in Society and History, 1977
Contemporary Sociology, 1984
Hastings Center Report, 1981

History of Education Quarterly, 1986, 1989
ISIS, 1987
Journal of American History, 1973, 1977, 1979, 1982, 1986
Journal of Contemporary Sociology, 1984
Journal of Economic History, 1970, 1986, 1991
Journal of Interdisciplinary History, 1974, 1988, 1989, 1991
Journal of Social History, 1982
Journal of Southern History, 1983
Michigan Academician, 1978
Science, 1980
Socio-Economic Studies, 1981
William and Mary Law Review, 1969

Scholastic Information:

National Merit Scholarship to Wesleyan University, 1961-1965

Graduated with Honors, Cum Laude, and Phi Beta Kappa from Wesleyan University, 1965

Dutcher Prize from Wesleyan University (excellence in history) 1965

William Day Leonard Award from Wesleyan University (all-around achievement), 1965

University of Michigan Distinguished Faculty Award, 1988-1989

Danforth Fellowship to Harvard University, 1965-1969

Fellowship to Cornell University Summer Program, 1967

Research grants from Cambridge Project, Danforth Foundation, Harvard University History Department, Harvard Center for Population Studies, Milton Fund, and National Science Foundation, 1968-1972 ($11,450)

Grant from U.S. Office of Education Research for project on Infant Education with Dean May ($1,250), 1971-1973

Grant from Spencer Foundation ($2,100), 1973

Fellowship from Rockefeller Foundation ($10,000), 1973-1974

Grant from NIH for project on "Diagnosis and Treatment of Asylum Inmates from 1818-1860" with Barbara Rosenkrantz ($150,000), 1974-1977

Grant from Rackham School of Graduate Studies, University of Michigan, for study of "The Development and Functioning of Academic Departments" ($3,540), 1975-1976

Grant from the Rockefeller Foundation for project on "Voting Behavior in the 94th Congress on Population Policy" ($6,550), 1977-1978

Grant from NIE for project on "The Politics of Educational Reform in Nineteenth-Century Massachusetts: The Controversy over the Beverly High School in 1960" ($12,831), 1979

Fellowship from Social Science Research Council for Life-Span Summer Program ($2,750), 1980

Grant from the Ford Foundation for project on "The Politics of Abortion in the U.S. Congress and the Nation, 1973-1980" ($32,080), 1980-1981

Grant from NIA for project on "The Development of Retirement in Early America: An Analysis of Congregational and Presbyterian Ministers in New Hampshire from 1630 to 1875" ($14,229), 1980-1981

Guggenheim Fellowship for project on "Death and Dying in Civil War America" ($13,000), 1981-1982

Grant from Rackham School of Graduate Studies, University of Michigan, for study of "Death and Dying in Civil War America" ($5,983), 1981-1982

Grant from Spencer Foundation for Analysis of Education in Newburyport, Massachusetts in 1860 ($5,000), 1983

Grant from Sloan Foundation for Conference on "New Directions for Demographic History" with Charles Tilly and Olivier Zunz ($9,900), 1986

Fellowship to the Center for Advanced Study in the Behavioral Sciences, Stanford University, 1987-1988 (postponed)

Grant from NEH Summer Seminar Program for College Teachers ($71,133), 1987

Grant from Spencer Foundation for "Determinants of High School Attendance in Antebellum America" ($7,500), 1987-1988

Grant from Sloan Foundation for Summer Program in "Quantitative Methods and Reasoning for Historians" with Jerome Clubb ($64,110), 1987-1989

Grant from American Institutions Program ($7,500) for research, 1988-1990

Grant from University of Michigan ($7,500) for research, 1988-1990

Grant from NEH Summer Seminar Program for College Teachers ($92,568), 1990

Grant from Spencer Foundation for "The Crisis in Moral Education in Antebellum Massachusetts" ($7,500), 1991-1992

Professional Activities:

Presented 130 papers, lectures, or seminars at professional meetings, other colleges and universities, or before public groups.

Commented on 23 professional papers.

Chaired 10 scholarly sessions.

Presented material 16 times as member of panel.

Helped organize workshop on Essex County [Mass.] History, June 1970

Chairman of committee to organize a conference on Essex County History, Salem, June 1971

Member of the Board of Editors of the Historical Methods Newsletter, 1972-1979

Member of the Board of Editors of the American Quarterly, 1977-1980

Member of the Board of Editors of the Journal of Family History, 1976--

Member of the Board of Editors of Human Nature, 1989--

Member of the Board of Editors of History of Education Quarterly, 1991--

Member of the OAH Committee on Bibliography and Research, 1974-1977

Co-organizer with Tamara Hareven of conference on "The Family in the Process of Urbanization" which was sponsored by the MSSB, Williamstown, Mass., July 1974

Consultant to NEH sponsored project under the direction of Richard Bushman to computerize the Massachusetts Valuation Lists of 1771, 1975-1976

Member of the Publications Committee of the Social Science History Association, 1976-1978

Member of the Advisory Committee for Data Archiving Information on Aging, joint project of the Institute of Gerontology and Institute for Social Research, University of Michigan, 1978-1984

Member of Local Arrangements Committee for the Social Science History Association meeting in Ann Arbor, Michigan, October 1977

Testified on "Historical Perspectives on Abortion" at the hearings of Michigan Senate Committee on Health and Social Services, June 1979

Taped half-hour TV interview with Harold Johnson of the University of Michigan Institute of Gerontology on "The Demography of Aging," August 1979

Assisted in drafting staff working paper on legislative expenditures for the U.S. House of Representatives Select Committee on Committees, August 1979

Guest editor of the Michigan Law Review, August 1979

Chairman of the committee to select best articles from the Journal of Social History, 1979-1980

Member of the Advisory Group on Child and Family Indicators of the Social Indicators Program of the Social Science Research Council, 1979-1981

Member of program committee for Social Science History Association meeting at Rochester, New York, November 1980

Consultant to the Ford Foundation to evaluate the activities of the Alan Guttmacher Institute, 1980

Member of committee to evaluate the History of Education Quarterly, 1980

Consultant to Center for Population and Family Health, Columbia University, on program for "Preventing Adolescent Pregnancy: The Role of the Family," 1981

Consultant to the National Archives and Records Service on disposition of FBI records, March 1981

Interviewed on the "Politics of Abortion," for CBS Sunday Morning News, June 1981

Member of panel for reviewers for summer research grants for the National Endowment for the Humanities, February 1982

Member of Committee on History for 1983 Society for Research on Child Development Program

Member of Committee on Biosocial Life-Span Approaches to Parenting and Offspring Development, Social Science Research Council, 1983-1991

Member of National Advisory Panel on The Data Archive on Adolescent Pregnancy and Pregnancy Prevention, 1983-1986

Member of Committee on Child Development and Social Policy for the Society for Research in Child Development, 1983-1989; Acting Chairman, 1988

Member of Panel to Select the Merle Curti Award for best book in American Social History for 1982-1983

Member of Panel to Select the Bancroft Prizes for 1986

Member of National Academy of Sciences Panel on The Problem of Teenage Pregnancy, 1984-1986

Instructor for Sessions on The Adolescent Family Life Program at SRCD Workshop, Cornell University, June 21-23, 1984

Elected to Executive Committee of Social Science History Association, 1984-1987

Member of Program Committee on Social Policy for SRCD meeting in Toronto, April 1985

Chairman, Committee on Research in Economic History, 1984-1985

Member of Advisor Panel, University of Wisconsin Press series on Life Course Development, 1985--

Member, AHA Committee on Quantitative History, 1984-1986; chairman, 1986

Elected to Board of Directors of the History of Education Society, 1987-1989

Project Coordinator, Quantitative Research in History: Historical Demography of the Nineteenth and Twentieth Centuries, U.S.-U.S.S.R. Exchange, 1985-1990

Discussed adolescent pregnancy on television NBC Today Show, April 1987; WXYZ (Detroit), August 1987; WBZ TV (Boston), November 1987

Discussed adolescent pregnancy on radio talk show, KING 1090, April 1987; WXYT 1270, October 1987; WFAD, January 1988

Member of Planning Committee for special issue of Daedalus on late adolescence and early adulthood, 1987

Commentator on Best Dissertations in Economic History, 1987

Member of Editorial Advisory Board for the American National Biography, 1987-1993

Member of Advisory Board for Institute for American Values, 1988--

Member of Committee to Select Director of the Gerald R. Ford Presidential Library, 1988

Member of Editorial Advisory Board for the Encyclopedia of Adolescence, 1987-1990

Member of SSHA Committee on Education, 1988-1990

Member of American Antiquarian Society Committee on Education, 1988-1991

Member of Social Policy Committee of the Society for Research on Adolescence, 1989-1994

Member of Committee on Interdisciplinary Affairs, SSRC, 1989-1991

Chairman, Committee to Select the Best Book in the History of Education for 1989-1990

Member of Committee to Select Best Book on Children and Public Policy, 1989-1992

Member of Planning Committee for special issue of Daedalus on children ages 3-11, 1991

Consultant to Sandia Laboratories on the WIPP nuclear waste disposal site in New Mexico, 1990-1992

Member, Publications Committee, Social Science History Association, 1992-1994

Member of Steering Committee, Center for Family Studies, University of Delaware, 1989--

Elected President of the History of Education Society, 1994-1995

APPENDIX B

List of Centers and Laboratories

OERI's Labs and Centers (1992)

10 Regional Educational Laboratories

The Office of Educational Research and Improvement (OERI) helps educators and policymakers solve education problems in their schools through a network of 10 regional educational laboratories. Using the best available information and the experience and expertise of professionals, the laboratories identify solutions to education problems, try new approaches, furnish research results and publications, and provide training to teachers and administrators. OERI recently awarded $162 million in contracts to operate the laboratories over the next 5 years. As part of their individual regional programs, all laboratories will pay particular attention to the needs of at-risk students and small rural schools. The 10 laboratories are:

Appalachia Educational Laboratory, Inc. (AEL)

1031 Quarrier Street
PO Box 1348
Charleston, WV 25325
(304) 347-0400
(800) 624-9120 (outside West Virginia)
(800) 344-6646 (in West Virginia)
Board Chair: Ralph Booher Jr.
Executive Director: Terry L. Eidell
Deputy Executive Director: John R. Sanders
Region Served: Kentucky, Tennessee, Virginia, and West Virginia
OERI Liaison: Carol Mitchell
(202) 219-2128

Far West Laboratory for Educational Research and Development (FWL)

730 Harrison Street
San Francisco, CA 94107-1242
(415) 565-3000
Board Chair: Joann Mortensen
Executive Director: Dean H. Nafziger
Region Served: Arizona, California, Nevada, and Utah
OERI Liaison: Marshall Sashkin
(202) 219-2120

Mid-continent Regional Educational Laboratory (McREL)

Denver Office:
2550 S. Parker Rd., Suite 500
Aurora, CO 80014
(303) 337-0990
Kansas City Office:
4709 Belleview Avenue
Kansas City, MO 64112
(816) 756-2401
Board Chair: William Solt
Executive Director: C.L. Hutchins
Region Served: Colorado, Kansas, Nebraska, Missouri, Wyoming, North Dakota, and South Dakota
OERI Liaison: Beverly E. Coleman
(202) 219-2280

North Central Regional Educational Laboratory (NCREL)

1900 Spring Rd., Suite 300
Oak Brook, IL 60521
(708) 571-4700
Board Chair: Franklin Walter
Executive Director: Jeri Nowakowski
Region Served: Minnesota, Wisconsin, Iowa, Illinois, Michigan, Indiana, and Ohio
OERI Liaison: Carter H. Collins
(202) 219-2194

Northwest Regional Educational Laboratory (NWREL)

101 SW Main Street, Suite 500
Portland, OR 97204-3297
(503) 275-9500
Board Chair: Barney Parker
Executive Director: Robert R. Rath
Deputy Executive Director: Ethel Simon-McWilliams
Region Served: Alaska, Idaho, Oregon, Montana, and Washington
OERI Liaison: John Coulson
(202) 219-2133

Pacific Regional Educational Laboratory (PREL)

1164 Bishop Street, Suite 1409
Honolulu, HI 96813
(808) 532-1900
Board Chair: Steve Umetaro (Acting)
Executive Director: John W. Kofel
Region Served: American Samoa, Commonwealth of the Northern Mariana Islands, Federated States of Micronesia, Guam, Hawaii, Republic of the Marshall Islands, and Republic of Palau
OERI Liaison: Joseph Wilkes
(202) 219-2186

Regional Laboratory for Educational Improvement of the Northeast and Islands

300 Brickstone Square, Suite 900
Andover, MA 01810
(508) 470-0098
Board Chair: Edward Reidy
Executive Director: David P. Crandall
Region Served: Connecticut, Maine, Massachusetts, New Hampshire, New York, Rhode Island, Vermont, Puerto Rico, and the Virgin Islands
OERI Liaison: John C. Egermeier
(202) 219-2119

Research for Better Schools, Inc. (RBS)

444 North Third Street
Philadelphia, PA 19123-4107
(215) 574-9300
Board Chair: Lozelle DeLuz
Executive Director: John E. Hopkins
Deputy Director: John A. Connolly
Region Served: Delaware, Maryland, New Jersey, Pennsylvania, and the District of Columbia
OERI Liaison: Susan K. Talley
(202) 219-2129

SouthEastern Regional Vision for Education (SERVE)

Headquarters:
University of North Carolina at Greensboro
P.O. Box 5367
Greensboro, NC 27435-5367
(919) 334-3211 or (800) 755-3277
Field Office:
Office of Policy Research and Improvement
Florida Department of Education
325 West Gaines Street, Suite 414
Tallahassee, FL 32399-0400
(904) 488-1611
Board Chair: Gov. Guy Hunt
Executive Director: Roy H. Forbes
Deputy Executive Director, Headquarters: Ernest K. Nicholson
Deputy Executive Director, Field Office: Dorothy K. Routh
Region Served: Alabama, Florida, Georgia, Mississippi, North Carolina, and South Carolina
OERI Liaison: Cheryl Garnette
(202) 219-2267

Southwest Educational Development Laboratory (SEDL)

211 East Seventh Street
Austin, TX 78701
(512) 476-6861
Board Chair: Ed Harris
Executive Director: Preston C. Kronkosky
Region Served: Arkansas, Louisiana, New Mexico, Oklahoma, and Texas
OERI Liaison: Richard A. Lallmang
(202) 219-2274

U.S. Department of Education
Office of Educational Research and Improvement

25 Educational Research and Development Centers

To help strengthen student learning in the United States, OERI supports 25 university-based national educational research and development centers. The office recently established 17 new centers following a nationwide grant competition. The new centers, plus 8 existing ones, conduct research on topics that will help policymakers, practitioners, and parents meet the national education goals by the year 2000. In addition to addressing specific topics, most also will focus on children at risk. Many also are collaborating with other universities, and many work with elementary and secondary schools. All have been directed by OERI to make sure the information they produce reaches parents, teachers, and others who can use it to make meaningful changes in America's schools. The 25 centers and their collaborating partners are:

Center on Families, Communities, Schools, and Children's Learning

Boston University
605 Commonwealth Avenue
Boston, MA 02215
(617) 353–3309
Co-directors: Dr. Don Davies and
Dr. Joyce Epstein
Affiliated Organizations:
- Institute for Responsive Education, Boston
- Johns Hopkins University
- University of Illinois at Urbana-Champaign
- Wheelock College, Boston
- Yale University

OERI Liaison: Harold Himmelfarb
(202) 219–2223

National Research Center on Assessment, Evaluation, and Testing

University of California at Los Angeles
Center for the Study of Evaluation
145 Moore Hall
Los Angeles, CA 90024–1522
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APPENDIX C

Reply to Comments of Mary Kennedy,
Chair, Organization of Research Centers (ORC)

Reactions to Mary Kennedy's Letter
About the Draft Report on Centers

May 20, 1993

Mary Kennedy, as Chair of the Organization of Research Centers (ORC), wrote a four-page critique of the draft reports on the quality of work produced by the OERI research and development centers (copy of her letter follows). I telephoned Mary Kennedy and thanked her for the comments as well as indicated where and why we still disagree on some items. As with the other comments about my draft center and lab reports, her specific criticisms have been addressed directly in the revised center and laboratory reports. However, it might be useful for the reader to have my specific reactions to the points raised in her letter on behalf of the center directors as it illustrates some of the basic differences in how the original draft report was perceived and reported.

Quality of Research

The most basic criticism that Mary Kennedy makes is that the report employs an extremely narrow view of quality--focused almost entirely on sample size. As she put it in her letter, "you seem to be using a very narrow definition of 'quality' which appears to consist almost exclusively of sample size, a criterion that only applies when statistical analyses are employed." She repeated her criticism in an Education Week interview and added that one if you "[a]sk a researcher to define for you what makes a study good, you'll get a half-dozen criteria, none of them sample size."

The issue of what constitutes quality is an important one, but Mary Kennedy's characterization of my definition being based only upon sample size is seriously inaccurate and misleading. The draft text on the centers makes it abundantly clear that I have looked at a variety of factors, not just sample size. Let me illustrate this by commenting on each of the six the principles mentioned in her letter:

> (1) & (2) The first two principles state that "(a) good research addresses question(s) that have theoretical or practical significance or both; (b) good research recognizes and builds upon other research and argument in the field."
>
> I certainly would agree with her first two statements. Indeed, throughout the report I emphasize the importance of doing a careful, critical review of the existing literature as part of the initial research design (in fact, I criticize many of the center research proposals for failing to have interacted sufficiently with the broader research community). The report then goes on to criticize many of the of the centers for lacking a coherent and cumulative research strategy. Unfortunately, Mary Kennedy neither acknowledged my discussions about the broader theoretical and field concerns nor addressed my criticisms of some of the centers for failing to have a broader and more ongoing research strategy (a

serious omission given the original and often restated mission of the centers).

(3) The third principle states that "(c) good research is systematic and there are opportunities to find disconfirming evidence." Again, I strongly agree with this principle and have devoted much attention to this issue. For example, the draft report pointed out the need for representative samples whenever possible and the importance of having adequate controls in order to test the impact of interventions. It criticized poorly designed studies, such as the comparison of Florida and Wisconsin teachers, because they made any systematic analyses difficult if not impossible.

(4) The statement that "good research uses methods for measuring or documenting phenomena that are as valid as possible" is self-evident among almost all researchers--though sometimes there is disagreement about the specific measures employed. Indeed, one of the relative strengths of some of the center work was their emphasis on documenting or describing phenomena--though sometimes at the expense of more rigorous analysis.

(5) The fifth principle is that "good research uses research methods that are appropriate to the questions(s) posed." Again, no one would argue with this proposition.

This matter was explored in several parts of the draft report--including a discussion of the appropriate and inappropriate use of case studies. Similarly, the discussion of the use of simple descriptive statistics rather than more sophisticated and rigorous analytic methods are noted for several of the center studies.

(6) Finally, "good research reports are explicit about definitions and methods so that others can know exactly how conclusions were reached." So true. In fact, the draft report criticized studies which did not provide information about the number of subjects or failed to include the tables from which the conclusions were drawn. Moreover, I pointed out the unwillingness of many of the centers to provide adequately detailed research designs which then could have been scrutinized and criticized by reviewers and/or center monitors.

Far from concentrating only on sample sizes, I have addressed a broad array of concerns--including those which Mary Kennedy has listed as some of her principles of good research. Moreover, her casual dismissal of the importance of sample size is troublesome--especially since a significant number of center studies were negatively affected by this consideration.

If one looks through the text and footnotes of my draft report, it is clear that I was quite aware of the current scholarly writings on research and have used them extensively throughout my work. Her apparent effort to characterize my analysis as being based on an almost exclusive focus on sample size as a criterion of quality is simply inaccurate and misleading.

Generalizability of Research

The second major criticism that Mary Kennedy makes of my work is that I fail to address the issue of the generalizability of research. As she puts it, "[w]e assume that one reason you focus on sample size is that you assume large samples make research generalizable." She goes on to emphasize the need to take into consideration the context and particular setting of the study--regardless of the sample size.

Again, Mary Kennedy has simply misread my draft report. Throughout the report I stressed the importance of knowing the setting and context of any study and warned readers of the dangers of generalizing from a non-representative sample. For example, questions about the representativeness of the case studies done by the Berkeley Writing Center were raised as well as the use of convenience samples by the UCLA Center. Similarly, the generalizability of results from the volunteer teachers in the Pittsburgh Center math study was questioned. A third example is the failure to specify that a certain study was done on a Catholic school was criticized because readers might not appreciate the potential dangers of using the results from this study uncritically in order to understand behavior in the public schools.

Mary Kennedy should have been particularly aware of my concern and understanding of the limits of generalizing from individual case studies. Although the National Center for Research on Teacher Learning was not one of the centers I investigated, Mary Kennedy visited me on July 29, 1992 in Washington, DC (with Joyce Murphy, her OERI center monitor). We discussed a study of an undergraduate honors history course at Michigan State which her center was funding (I had not seen the study, but she described it for me). I cautioned her about making any generalizations from an honors history course at one particular institution and suggested the need for replicating that investigation in other courses and at different colleges and universities. She strongly disagreed with me and argued that the results of this particular analysis would be equally applicable even in other settings--such as Eastern Michigan University or the University of Michigan. We never resolved our disagreement. However, after she left, Joyce Murphy provided me with a copy of that study. G. Williamson McDiarmid, the author of the case study, wrote that "[obviously, case studies of this type do not produce generalizable findings." Thus, far from ignoring the issue of context and setting, I have dealt with it both in my report and in my discussions with the directors of the centers.

Difference Between "Basic" and "Applied" Research

Mary Kennedy writes that in our distant past the research community worried about the relative proportion of research expenditures that went to basic versus applied research, but this distinction has been virtually abandoned today. To raise the issue now, she claims "is more than frivolous; it threatens to move us backward, to open old wounds, and to distract us from more important issues regarding the substance of our work."

Throughout the report I have acknowledged that it is difficult in practice to separate basic and applied research, but I suspect that the debate about that distinction has not been relegated to our "distant past" as Mary Kennedy claims. For example, the educational researchers on National Academy of Science panel studying the Office of Educational Research and Improvement (OERI) in 1992 continued to make a distinction between basic and applied research. Indeed, the National Academy report specifically stated that: "...the centers should undertake considerable more basic research than they do." I found no evidence that anyone accused their recommendation or approach of being "more than frivolous."

Moreover, rather than accepting uncritically the widely used distinction between basic and applied research, I offered a way of refining and improving that discussion. Borrowing from the recent work of the Social Science Research Council, I suggested that we might want to broaden our discussion by adding the concept of "mission-oriented" basic research. It is interesting to note that the Social Science Research Council has not abandoned the discussion about basic and applied research (nor has the National Science Foundation in its recent discussions on the future direction of their agency). Unfortunately, Mary Kennedy did not acknowledge the considerable extent of my discussion of this complex issue in the draft report--but instead reverted in her letter to attacking stereotypes prevalent 20-30 years ago.

Distribution of Center Expenditures

Given the difficulties of categorizing research, Mary Kennedy suggests that it may be counterproductive to examine how center funds are appropriated to different areas. Accountability cannot be dismissed because of difficulties inherent in the task. We have a responsibility to the public to document and analyze how federal research funds are expended. If no attempts are made to categorize how OERI research funds are spent, policy makers and administrators will be handicapped in carrying out one of their basic responsibilities. Rather than abandoning the system as a whole, our collective responsibility is to try to improve it. In the report I suggested that the current PMIS system as well as the new TORUS system should be improved.

Part of the problem is that the center directors and their research staff usually have not taken the PMIS system very seriously and therefore the data they have reported have been suspect. As the report clearly stated, when I went to each of the five current centers investigated, they were provided with copies of my analysis of their center activities and given an opportunity to make any changes or adjustments they thought necessary.

Therefore, I think that the results reported in this analysis are not as "seriously flawed" as Mary Kennedy argues--though certainly there is a need for further refinement of the current PMIS system. Indeed, the draft report was careful throughout to caution the reader about using these data uncritically.

I do share, however, Mary Kennedy's skepticism about the specific estimate of basic research done at the "policy center " at Rutgers University. As the draft report pointed out, the claim of such a high percentage of basic research at the Rutgers University Center was based upon a change in the data provided after my visit to that institution. As the new chair of the Organization of Research Centers (ORC), Mary Kennedy might work with the other center directors and the OERI staff to improve the general understanding of and agreement on the terms used. Since Mary Kennedy characterizes Susan Fuhrman's (the director of the Rutgers University Center) categorization of basic research as "not meaningful," perhaps this may provide a useful opening for a further dialogue on this matter, both among the centers and with OERI.

Despite the problems in the measurement of the different types of work done by the centers and laboratories, I think the report has demonstrated the value of looking at this type of information. For example, thanks in part to the categorization of the data, the lack of development work by the centers was revealed. This was one of the more important findings in my analysis and one that the earlier National Academy of Science report did not recognize adequately.

Moreover, my efforts to categorize center activities were not confined to the nature of the research, but also dealt with center expenditures on overhead, administrative costs, and dissemination. The distinction between research and non-research expenditures was less difficult to make (again, the centers were given an opportunity to correct their figures). Thus, another major finding of this report was that only about one-half of the federal funds went for actual research--something which many policy makers and the public do not realize, but should know.

How Should OERI Determine the Quality of Research

Mary Kennedy suggests that a review of the quality of the research at centers and laboratories would have been better done by a panel than by any single individual scholar. That would have been my preference as well--though I doubt that the actual results would be much different if a disinterested panel rather than just one disinterested scholar had performed this task.

Having single individuals analyze the centers and laboratories has been neither uncommon nor considered unacceptable by either the National Institute of Education (NIE) or the Office of Educational Research and Improvement (OERI) and their constituencies. For example, Francis Chase and Kendall Price each examined the centers and laboratories in the past. More recently, Brenda Turnbull of Policy Studies Associates has been commissioned to do an indepth evaluation of certain aspects of laboratory activities. Moreover, many of these studies did not focus just on some portion of the center or laboratory activities, but had to look at them as entire entities--a much more difficult and ambitious task than my assignment.

The panel studies of the centers and laboratories which have been done did not look in detail at the quality of work of these institutions--perhaps in part because of the major commitment of time and money such an investigation would require. The National Academy of Science, for example, originally was expected to do a careful review of the centers and laboratories as part of their overall analysis of the Office of Educational Research and Improvement (OERI). Unfortunately, they choose not to pursue that part of their mission due to a lack of time and resources.

While I do not think that a panel of other experts is likely to come up with a very different set of conclusions about the nature and quality of the research and development at the centers and laboratories, I certainly would welcome any further systematic inquiries. Moreover, I would suggest adding some other tasks for that panel as well--such as systematically looking at the nature and quality of the technical assistance provided by the laboratories. Therefore, I urge the Organization of Research Centers (ORC) and the Council for Educational Development and Research (CEDaR) to join forces to encourage the Congress and the U.S. Department of Education to provide funds for an independent, indepth panel study of their activities.

Analysis of Deliverables

Mary Kennedy questions looking at the deliverables sent to OERI as examples of their work--especially since many of these unpublished deliverables are refined when they are published. This is far from a compelling argument.

First, some of the materials I criticized were published in so-called "prestigious journals with rigorous peer review processes." For example, the study of Florida and Wisconsin teachers appeared in Educational Evaluation and Policy Analysis. Despite the high quality of the journal and the peer review process, that research was seriously flawed methodologically. Rather than accept uncritically the validity of something just because its been published, I suggest that it is better to actually read the essay carefully in order to determine its strengths and weaknesses. As most scholars know, just because something is published in a refereed journal does not necessarily mean it is correct.

Second, an especially disturbing finding from my report was that most of my serious methodological criticisms based on the unpublished deliverables sent to OERI do not disappear in subsequent versions. Many of the deliverables are never published and those that are published cannot easily or quickly overcome the basic conceptual and methodological weaknesses inherent in the original design. Moreover, in my visits to the five centers, I tried to discuss my specific criticisms of these studies with the authors and listened to all of their rebuttals. Furthermore, I encouraged the centers and laboratories to send me any additional materials, including published works, which they thought might be appropriate (many did provide such materials to me at the time of the visit or after I returned to Washington, DC).

Third, Mary Kennedy is slighting the importance of ensuring the high quality of deliverables, not just for the purpose of accountability of the use of public funds, but also for sustaining our intellectual responsibility to other researchers and policy makers. Most of the research and development reports are widely distributed to policy makers and practitioners by the centers and laboratories. Indeed, this is an important component of their dissemination activities. If the deliverables are as flawed (compared to the eventual published materials) as Mary Kennedy argues, then the centers and labs should either warn the readers accordingly or only disseminate published materials. A much more responsible approach, I think, is to try to improve the quality of the deliverables as I think most centers and laboratories are striving to do. By downplaying the importance of providing center and laboratory deliverables of suitable quality, I think Mary Kennedy may be doing many of her colleagues and the system as a whole a serious disservice.

Conclusion

While I appreciate the critical comments about my draft report from Mary Kennedy, on the whole I am dismayed by the surprisingly large number of errors and misleading statements in her letter. I strongly urge any interested readers to go back to the original draft report on the centers and the laboratories (copies of which can be obtained from the Office of Research in OERI) to assess for themselves the validity and accuracy of Mary Kennedy's criticisms and my response. Nevertheless, her letter on behalf of the center directors provided me with an opportunity to restate my original findings and to sharpen some important distinctions. I do regret, however, that the center directors did not use this opportunity also to respond to many of the other fundamental criticisms and suggestions for improving their institutions and practices--such as increasing the relatively modest percentage of federal research money spent on research and development or eliminating the fragmentary and non-cumulative nature of many of their studies.

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April 30, 1993

Dr. Maris Vinovskis
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Dear Maris;

As the newly-elected chair of the Organization of Research Centers, I am responding to the draft report you wrote on center and lab research. Our response is based primarily on your analysis of centers, but many of the points are probably equally applicable to the lab report.

The draft report has much to recommend it. Your disciplinary background in history serves you well, for instance, in your review of the history of NIE/OERI and its research centers. And you have done a careful and thorough job of capturing many of the difficulties both OERI staff and center researchers face in trying to promote and conduct high-quality research. The report's greatest weaknesses appear in its central focus: defining the quality of work under way in research centers and laboratories. This is unfortunate, in that the issue of quality is extremely important and deserves thoughtful attention, particularly now, when OERI is being considered for reauthorization. In this letter, I want to outline some of the issues your report raised for center directors and offer some alternative ways of thinking about these issues.

1. What Makes Research "good?"

The central issue you tried to address was the quality of research conducted in centers. Quality is a slippery term in the best of circumstances, and no trivial topic in the field of research, where researchers have been debating it publicly for nearly two decades. Much of the argument in the field has centered on qualitative versus quantitative data, or on case studies as opposed to experiments or surveys. These debates have yielded some important insights about the nature of research, the most important of which is that there is no single rule or set of rules for defining correct procedures. Instead, a number of principles are used and their relative importance differs across settings. Here are some examples of these principles:

(a) good research addresses question(s) that have theoretical or practical significance or both;

(b) good research recognizes and builds on other research and argument in the field;

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(c) good research is systematic and there are opportunities to find disconfirming evidence;

(d) good research uses methods for measuring or documenting phenomena that are as valid as possible;

(e) good research uses research methods that are appropriate to the question(s) posed; and

(f) good research reports are explicit about definitions and methods so that others can know exactly how conclusions were reached.

Please do not read this as THE criteria for quality. It is a rough approximation of what we perceive as prevailing views in the field. Others would no doubt disagree with some or many of these points. The point is that your report gives the impression that you are unaware of the extensive literature in this area, for you seem to be using a very narrow definition of "quality" which appears to consist almost exclusively of *sample size*, a criterion that only applies when statistical analyses are employed.

The question of research quality is an important one, one that OERI should give serious thought to. But that thought should be based on current thinking in the field and should take into account the possibility that criteria might differ depending on the content being studied and the norms of different disciplines. So while we are glad you have raised the issue, we are concerned that your criteria are overly narrow and don't reflect the thinking in the field as a whole.

2. What makes research generalizable?

We assume that one reason you focus on sample size is that you assume large samples make research generalizable. But as this debate about quality has ensued, debates about the generalizability of research findings have also been lively. We now recognize that numerous issues influence the generalizability of research findings. Cronbach has defined generalizability as depending not only on the sample of research subjects, but on the nature of the treatment and on the nature of the context as well. Some researchers have drawn the distinction between *generalizability*, which is a statistical method of extrapolating from one's data, and *transferability*, which is a judgmental process of extending findings to other settings. This distinction is useful not only to qualitative work, such as case studies, but to quantitative studies as well: Most experimental studies are done within particular settings, for instance, regardless of the size of the sample of students who might participate. The extent to which these studies can be applied to other settings is a matter of judgement, not a matter of sample size.

3. What is the difference between "basic" and "applied" research?

In our distant past (that is, around 20-30 years ago), we worried a lot about the relative proportion of research expenditures that went to basic versus applied research, and we debated the relative merits of each. At that time, basic research was theory driven and tended to be conducted in laboratory settings. Applied research, on the other hand, addressed practical questions and was done in the field. It was assumed that basic research had to *precede* applied research, and that applied research built on basic. Now, the distinction has been virtually abandoned. Even theoretical work is conducted in the field, and all of it is applied as well as theoretical.

It has taken us a long time to move beyond this counter-productive distinction and the rivalries it engendered. To raise it again now is more than frivolous; it threatens to move us backward, to open old wounds, and to distract us from more important issues regarding the substance of our work.

4. How can OERI determine how centers are using their funds?

You also devote a considerable amount of your report to defining the proportion of funds that are used for policy research, evaluation, development, or basic or applied research. But the data you use for this analysis come from Project Information Forms and are seriously flawed, thus casting doubt on the entire analysis. The fact that a *policy* research center has more funding going to *basic* research than any other center should provide a clue that the data are not meaningful. One problem is that the terms are not defined, so that each person filling out the form uses his or her own idiosyncratic definitions. Another problem is that the categories are not mutually exclusive, and many studies can be defined in multiple ways. I already noted, for instance, that researchers rarely distinguish basic from applied research, and it is not clear how anyone could distinguish *policy* research from *applied* research.

It seems to us that the more important question is not how much money is going to these vaguely-defined categories, but rather whether the money is being used to address important questions. That determination, presumably, was made when the centers were originally reviewed.

5. How should OERI determine the quality of the research it supports?

In the past, OERI has tended to evaluate research promise at the point of funding rather than evaluating the quality of work once it was completed. We commend both you and Diane Ravitch for raising the question of the quality of completed work. But if OERI is to pursue this question seriously, it needs to pay attention to the procedures it uses for review. Research *promise* has traditionally been determined by panels of peer reviewers. A similar process of peer review could be used to evaluate *completed* research. Other methods include responses from consumers, analysis of citations, or analysis of awards or other forms of recognition for

OERI-sponsored work. What these procedures hold in common is that they recognize the importance of the field in determining quality and they recognize that different fields may value different kinds of research and employ different criteria to assess research quality.

A related issue has to do with which center products should be used to evaluate quality. You relied mainly on documents that were submitted to the OERI--those things we call "deliverables." But many centers do not consider deliverables as their ultimate products, nor do they consider OERI their ultimate audience. Instead, deliverables are intended to keep OERI abreast of our progress, thinking, and accomplishments. Most deliverables are substantially refined, modified, and customized before they are submitted to their intended audiences. In fact, some of the studies you criticized were subsequently published in prestigious journals with rigorous peer review processes.

All of these issues are important ones, and we can thank you and Diane for surfacing them. However, we strongly urge you not to publish this report as it currently stands. The narrow criteria you have used to define quality and generalizability, the misplaced emphasis on basic versus applied research, the poor quality of the data you used to determine the distribution of funds across types of research all argue against its release. In addition, the procedural issue of who should evaluate quality, and how, is an important one. Publication of this report would imply that OERI believes one person's judgement and criteria are adequate to assess the diverse array of work being done in the labs and centers.

Sincerely,

Mary Kennedy

Mary M. Kennedy
ORC Chair, 1993-1994

MK/lmf

cc: Center Directors
Sharon Robinson
Joe Connaty